

# AMERICAN ARTISAN and Hardware Record

Vol. 82. No. 4.

620 SOUTH MICHIGAN AVENUE, CHICAGO, JULY 23, 1921.

\$2.00 Per Year.

*These piping times of peace and reconstruction keep us busy constructing pieces of pipe to fill the demand.*

*The metal worker who deals in LAMNECK PRODUCTS has no time to talk business depression.*



HOW ABOUT STOVEPIPE? HOW IS YOUR STOCK OF "LAMNECK LOCK"? Without a doubt one of the best joints on the market, not a rivet and the lock runs the entire length of the seam. Cut it anywhere. Comes nested and packed in clever corrugated cartons which look good on your shelves—CHECK UP ON THIS.

AND ELBOWS?—Our one piece corrugated stands in a class by itself. Perfect construction, strength where the strength is needed and no chance for expansion.—HOW MANY WILL YOU NEED?

LAMNECK ADJUSTABLE ELBOWS. We challenge the world with this product. Made on our patented machines, they are the finest ever produced. Absolutely cannot come apart and flexible as an eel's tail. Will give you any angle or offset desired. Neat as a silk clad ankle—If you have not seen a LAMNECK ADJUSTABLE ELBOW, you are in for a pleasant surprise. PLACE YOUR ORDER EARLY.



GET OUR CATALOG AND LEARN ABOUT THE LAMNECK SIMPLIFIED FURNACE FITTINGS. THEY ARE TIME SAVERS AND MONEY MAKERS FOR YOU.

**THE W. E. LAMNECK COMPANY, COLUMBUS, OHIO**

: : *Everything for the Modern Metal Worker and Furnace Man* : :



*Salesman* "On my last visit, you suggested that we use rust resisting 'Armco' Ingot Iron in our products. Well! we have decided to do it."

*Merchant* "Fine! That's the kind of sales help I need. The public knows about 'Armco' Ingot Iron."

Look for the Blue and Gold "Armco" Ingot Iron trade-mark label on washing machines, stoves, refrigerators, enameled table tops and other household utilities.

Write for booklet "Why Steel and Iron Rust."



THE AMERICAN ROLLING MILL CO.

Middletown, Ohio

FOUNDED 1880  
BY  
DANIEL STERN  
Thoroughly Covers  
The Hardware, Stove,  
Sheet Metal, and Warm  
Air Heating and Venti-  
lating Interests

# AMERICAN ARTISAN and Hardware Record

Address all communications and  
remittances to  
AMERICAN ARTISAN  
AND  
HARDWARE RECORD  
620 South Michigan Avenue  
Chicago, Illinois

PUBLISHED EVERY SATURDAY BY ESTATE OF DANIEL STERN

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## THE NEW ERA IN MERCHANDISING

Not so very many years ago, the traveling salesman was trained principally along the line of "getting the order."

It mattered little, at that time, to the management of his company what methods he pursued so long as he "got the order."

He was usually a "hail fellow, well met" sort of man with his pockets full of cigars and a liberal expense account for "entertainment." Many of his orders were secured because of his faculty for getting the customer in good humor.

One day a sales manager conceived the idea that in order to hold his trade and gain new business, it would be a good scheme to train his men along the line of showing the profit that could be made on his wares, and the profession of traveling salesmanship received a great impetus, because here was something of a real constructive, creative nature. Merchants were induced to place orders because of the profit producing feature of the line.

But the same abuses that existed in the former days of the "good fellow" salesman continued under the new dispensation.

Too often the salesman pushed the buyer beyond the limit of his capacity for sales. Instead of making money on the goods, the line became a drag because the profit was hung up in dead stock.

Then came the modern salesman.

He makes due emphasis, of course, on the liberal profits to be realized.

He is of pleasing personality.

But his chief characteristic is his ability to show the retailer how to dispose of the goods he wants to sell to the latter, at a good profit.

He is thoroughly posted on the methods that enter into the manufacturing process of his hammer or saw or meat grinder or wash-

ing machine or kitchen range or whatnot.

He is able to "demonstrate" its proper use and operation in a manner which shows the retailer how to perform the same service to the consumer.

He knows how to emphasize the ease, the comfort, the pleasure, the pride that come with the possession of the particular article.

He is a creator of sales, because he helps the dealer to develop new customers, by pointing out to him how to go about this work, and often he performs some of the actual work himself.

The modern school of merchandizing does not frown upon good fellowship or pleasing manners.

Nor does it fail to consider the profit feature.

But the strongest emphasis is laid upon the creation of new trade, the widening of the field of consumption.

There is going to be a housecleaning in all fields of retailing, just as there is one in the fields of wholesaling and manufacturing now.

It is plain to every one who has made a serious study of the developments in merchandising that the day of the men or concerns is passing who are content with accepting such business as comes to them without any real creative effort on their part.

The "waiter for business" will not have enough to pay him a living.

While the merchant who goes after business will gain new customers and increase his sales to old customers.

This is an era of doers—of creators.

If you can not honestly say that you belong in this class—

Change your tactics!



## Random Notes and Sketches

By Sidney Arnold

There are few people—if any at all—who would not be pleased to know that every disabled veteran of the World War is being properly cared for and that he is receiving every penny to which he is entitled because of his injury while in the service of his country.

The trouble is that too many of us are prone to "leave it to George," when it comes to making sure that they get proper treatment.

That is why Congress is loafing on the job.

That is why the Sweet Bill does not seem able to get out of the sub-committee which has it "under consideration."

And yet—we blame our Congressmen and our Senators for taking their time, while these men are dying and suffering for want of proper care.

Write to your Congressman and to your two Senators *today* and tell them to get busy—that you want the Sweet Bill passed without further delay.

Make it your business *today* to make sure that no disabled veteran in your locality is without the relief—financial and otherwise—that he should have.

If you know of any such who is not being properly looked after, notify the American Legion Post in your community.

Jobs are scarce in many places, but places can be found for ex-service men who are willing to work.

Locate a job *today* and help an ex-service man to get it.

That is the only way in which you can prove that you meant anything by your cheering when the boys left home for the Army camp.

\* \* \*

C. S. George of the George Hardware Company, Grinnell, Iowa, sends me a new joke—new, at least, to me:

An Irishman, an Englishman and a Scotchman were out of work.

They traveled together in search of employment and came to a farmer's house and applied.

The farmer said whoever could tell the biggest lie could have a job.

The Englishman said he went to the North Pole in a tub. The Scotchman said he swam to the South Pole.

The farmer then asked Pat:

"Well, Pat, what's your lie?"

"Begorra, sair," said Pat, "I believe these lads." Pat got the job.

\* \* \*

Unless you are a charter member of the Ancient Order of Pessimists, you will enjoy the appended story sent me by C. T. Aid of the Aid Hardware Company, West Plains, Missouri:

An old Southern negro who was asked by the proprietor of a store how he happened to need credit when he'd such a good cotton crop.

"De ducks got about all dat cotton, suh," was the mournful reply.

"What do you mean the ducks got it?"

"Well, you see," explained the old man, "I sent dat cotton up to Memphis an' dey deducts the freight, an'

dey deducts the storage charges, an' dey deducts the commission, an' dey deducts the taxes—yes, sah, de ducts got 'bout all dat cotton an' dat's why I'm here."

\* \* \*

Here is good medicine for a sluggish liver, prescribed by my friend H. E. Marsh, Manager of Sales, Marsh Lumber Company, Dover, Ohio:

Dennis and Mike were seated in a restaurant, enjoying a plentiful repast whose main dish consisted of sardines.

"Shure, those are a great little fish. Oi could eat two or three cans of them," said Dennis.

"How would you like to be a whale," responded Mike, "Whales eat tons and tons of sardines a day."

"Phwat are you giving me?" said Dennis suspiciously, "Who opens the cans for them?"

\* \* \*

The sheet metal contractors in Michigan and their friends among the traveling salesmen are going to have "some time" on their outing at Grand Rapids next Friday and Saturday, judging from what I hear and from letters and post cards received from Frank Eberle, Tom Peacock, Charlie Mason, Armco Pierson and others in the Auxiliary.

Everybody is working hard to make this outing the best in the history of Michigan Sheetmetaldom, and

Two Early Birds on  
Their Way to the An-  
nual Outing of the Mich-  
igan Sheet Metal Con-  
tractors' Association in  
Grand Rapids.



I am sure that it will be all that the officers and members hope for.

The accompanying illustration shows T. I. Peacock, of the Premier Furnace Company, and C. F. Nason, of the Milwaukee Corrugating Company, Vice-president and Secretary respectively of the Jobbers' and Traveling Salesmen's Auxiliary, as Tom puts it, "Two Birds on their way to Grand Rapids for the Michigan Sheet Metal Picnic."

\* \* \*

### Jog On.

Jog on—don't expect to go running,  
You'd only get half the way;  
Take it easy and climb up by notches,  
Then when you reach the top you will stay.

Maybe the road will seem rocky,  
The better for you when you've won;  
There isn't one-half the glory  
To accomplish what's easily done.

And just when you're ready to ponder,  
Go ahead with more vim than before;  
You're nearer the top than you thought for,  
So jog on, and you'll find what's in store.  
—Mrs Otis A. Skinner.



# Chicago's Great Pageant of Progress Begins July 30 and Lasts to August 14.

*Purpose Is to Demonstrate Importance of Chicago in Nation's Business and to Furnish Impetus for New Activity.*

Chicago's Pageant of Progress Exposition, July 30 to August 14, has been announced by its promoters as "the greatest show since the Chicago World's Fair of 1893." Chicago gained fame from that great exposition. In fact, Chicago has been an "exposition city" more or less since the early days, when a building was constructed on the lake front, called the "Exposition" building, in which was to be exhibited the year around examples of the bone and sinew of Chicago.

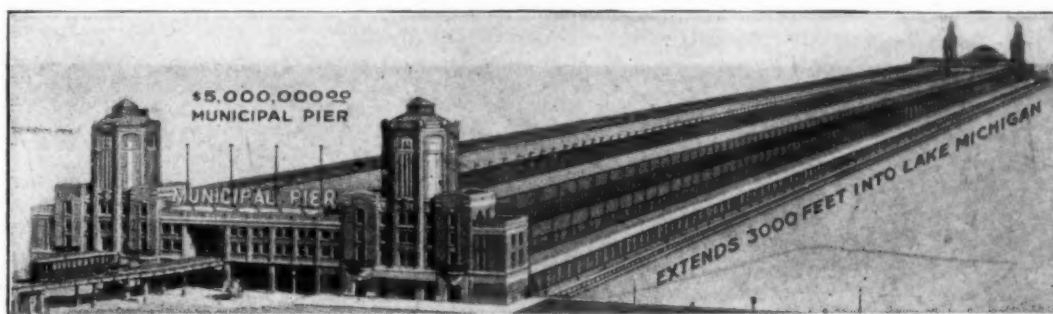
Some months ago a committee of the Chicago Boost-

modern inventions have replaced the older methods under which great business organizations could not operate today.

The United States government, the state of Illinois, and many of the educational institutions of the middle west will occupy section S.

## History of Man's Dwellings.

Section T will be occupied by school industries and section U by building industries. In section U a complete history of the types of dwellings used by man,



Chicago's Great Municipal Pier Where Pageant of Progress Exhibition Will be Held July 30 to August 14.

ers' Club was engaged in a discussion of ways and means to combat the business slump which was beginning to affect this city along with the rest of the country.

The committee discussed and then discussed some more. Idea after idea was set forth and each, after analysis, found its way to the waste basket. Suddenly some one—it is said it was D. F. Kelly of Mandel Brothers—mentioned the old "Exposition" building on the lake front. The conferees agreed that the idea was a good one. It is now about to open as an actuality.

The scene of the exposition will be Chicago's Municipal Pier, extending from the foot of Grand Avenue far out into Lake Michigan. The pier itself is an attraction, drawing hundreds of thousands of visitors every summer season. The exposition will open at 10 o'clock Saturday morning, July 30, and will continue for sixteen days.

## Arrangement of Displays.

For the purposes of the exposition the two upper decks of the pier, each 2,340 feet long and 67 feet wide, without a post to obstruct the view, have been divided into seventeen general sections. As the visitor enters the south hall at the west or shore end of the pier he will find himself in section A, given over to paper products, advertising, and office appliances.

Machines manufacturing various articles of paper will be in operation here, and the newspapers, advertising agencies, printers, and others interested in advertising will show their exhibits. The office appliance subdivision will show how the typewriter, adding machine, card index, coin change machines, and other

from his first cave in the cliff or hillside to the huge modern apartment building, will be presented.

Many inventions with which the public is not yet familiar will be shown by the electrical industries and public utilities in section V, including some uses of wireless energy which are almost uncanny. Section X will be occupied by the laundry industries and section W by manufacturers of public safety devices.

The last two sections, Y and Z, will be occupied by the automotive industry, passenger cars being located in Y and accessories and trucks in Z.

## Military Exhibits, Too.

In the administration building, east of the exhibition halls proper, the United States navy, the Boy Scouts, and the chemical warfare division of the United States Army will have educational exhibits of their work.

The naval militia of the Great Lakes station will contribute some of the most spectacular features of the entertainment program, bringing gunboats, destroyers, submarine chasers, and smaller craft and presenting sham battles and naval maneuvers exactly as they are seen in time of war. Commander Wurtzbaugh of the Great Lakes Naval Training Station is sending 1,000 of his boys to encamp at the pier during the exposition and join in the naval maneuvers.

## Cutter Races Planned.

Six hundred cadets from Culver Military Academy and Culver's famous Black Horse Cavalry troop probably also will come to Chicago for the exposition. A cutter race, in which crews from Culver, the naval

training station, and the naval militia gunboats will compete, is being planned.

Another spectacular feature of the entertainment will be speedboat races.

Airplane exhibitions, races between airplanes and racing pigeons, parades, street dancing and scores of other attractions are planned. The most beautiful young women in Chicago are being chosen by their respective neighborhoods to represent them at the exposition, and a committee of sculptors and artists will choose from among the neighborhood queens the one considered the most typical of Chicago. She will be crowned "Queen of the Pageant" with fitting ceremonies.

### ***Times Are Better Than Before the War.***

Steady improvement in business conditions was predicted by Josiah Kirby of Cleveland in an address at the recent convention of the National Association of Real Estate Boards.

"We in America cannot now experience a sustained depression," he said, "all sustained depressions have for their background an over-production of finished and a shortage of natural wealth.

"Conditions at present are exactly reversed. We have in America a shortage of finished products and an abundant supply of natural wealth in the form of raw materials, and the purchasing power of our people is without end.

"Even now, in the so-called dull period, business is so far ahead of 1914 as to make comparisons ridiculous.

"Current freight car loadings are running only about 15 per cent less than a year ago; business failures, never abnormally high, are decreasing both in number and amount of liability; and in almost every line of endeavor business is available to the man who will trade his wishbone for a backbone and go out and get it."

Labor lost in wages, because of the inactivity in the building trades three billions dollars in 1921, Daniel Crawford, Jr., building contractor of Philadelphia, declared in a speech.

### ***Douglas Sees Improvement in Business Situation.***

Instead of waiting for some mysterious set of forces to restore good times, the people of the United States have settled down to the grim and sober business of working out their own salvation, writes Archer Wall Douglas, Chairman of the Committee on Statistics and Standards of the Chamber of Commerce of the United States, in his monthly review of business conditions in the August number of *The Nation's Business*.

While the return to better times is certain to be slow, he says, there can be no doubt as to the final recovery.

"The story of the present business depression," says Mr. Douglas, "is very similar to other depressions which have occurred during the past half century. The beginning of the end of speculation and over-expansion came with restriction of credit that put a sudden crimp in the volume of business and started prices downward on their long journey of declines. Then followed the

slowing down in industry, the incubus of much unemployment, and all the attendant evils of hard times. After the first shock, there were a flood of forecasts of an early return to former conditions and the passing of those ills which afflicted the country. Invariably the prophecies came to grief.

"One of the earmarks of past depressions was the fantastic schemes advanced to prevent the return of such eras. These schemes included the stabilization of prices and doing something to the currency, so that its purchasing power would always be the same. And there are those among us who take these theories seriously today, just as our forbears did in their day. We have at least one consolation in this generation, that out of the welter of past misfortunes we have learned the lesson of a sound financial system, as embodied in the Federal Reserve Bank.

"The chronicle in industrial life is one of better business in leather, especially in boots and shoes; lower prices in an increasing number of makes of automobiles, and of good business in automobile sundries; lower prices in oil with the likelihood of consequent decreased production; continued dullness in mining; some improvement in clothing; production in steel and iron down to lower levels and with reduced prices, yet with slight increase in sales of some of the finished products; a generally good movement in summer seasonable goods; slow increase in construction as the costs of material and of labor declines in different sections; more particularly in the large cities; better wholesale trade in general but of smaller volume of retail business in the large centers."

### ***New Catalog of Iron Horse Metalware Is a Useful Book.***

The well-known trade-mark of the Iron Horse, mounted by an armored knight which is known to many hardwaremen as signifying the high quality metalware produced by the Rochester Can Company, is brought out very effectively in the new catalogue of this Company.

Every article shown in this catalogue is reproduced in actual colors and the descriptions are so well written that the local retail hardware dealer can make good use of them in preparing his newspaper and circular advertisements.

Requests for copies of this very fine book, which comprise 128 pages and cover and in which the entire line of Iron Horse Metalware is shown and described, should be addressed to the Rochester Can Company, Rochester, New York.

### ***Cannot Get Along Without AMERICAN ARTISAN.***

TO AMERICAN ARTISAN AND HARDWARE RECORD:

We cannot get along without AMERICAN ARTISAN AND HARDWARE RECORD.

Yours truly,

HAMBLIN & SON.

—, Iowa, July 16, 1921.

It is only a narrow man who is hidebound and strenuously opinionative.



# Good Ideas for Window Display

*Practical Lessons from Exhibits in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition. How to Get More Passers-By to Come into Your Store.*

## **VARNISH WINDOW DISPLAY THAT PRODUCED SALES.**

Any time is paint time, but especially Spring and Summer, so the window display shown herewith is timely as well as a sample of good work. Mr. Sauer, who arranged it as part of his preparation for a "Clean-Up and Paint-Up" campaign in his community which is one of the residence sections of Minneapolis, states that it took the people by surprise and also the Chi-Namel demonstrator, and that it created much interest by showing some of the many pleasing effects

partment. There are lots of little jobs of refinishing that the man of the house or his wife can do with very little trouble, and the little half pint cans will often contain enough for such jobs, so the investment will not run into much money.

For larger jobs, such as decorating bath rooms or refinishing the woodwork in the dining room, the best thing is, of course, to call in the painter, unless the owner of the house really knows how to handle a brush properly.

This attractive window display was arranged by E.



Window Display of Varnish and Paint That Produced Sales. Arranged by E. A. Sauer, 1410 Yale Place, Minneapolis, Minnesota.

that can be accomplished by the use of a few brushes and cans of varnish, enamel and paint.

The trade name of the varnish was carried out in the incidental decorations. Chinese umbrellas and lanterns as well as the little flags strung from the ceiling helped to put color into the setting, and the handsome posters and banners added to the attractive effect.

A large color card, right in the center of the foreground, gave an idea of the great variety of shades and colors in which the varnish could be secured and dozens of small cans impressed the observer with the fact that the stock was so well assorted that the purchaser could obtain what he wanted—whether a large quantity or just enough for a small job was desired.

Note particularly the sign in the center of the background: "Do the little things yourself, but call in the painter for the big job."

That is a pretty slogan for a paint and varnish de-

A. Sauer, 1410 Yale Place, Minneapolis, Minnesota, many others of whose effective examples of window advertising have been reproduced and commented on by AMERICAN ARTISAN AND HARDWARE RECORD.

## **AMERICAN ARTISAN Want Ad Filled His Wants.**

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Please discontinue our ad for help. We wish to say that we surely have received replies which turned out very satisfactorily.

STANDARD SHEET METAL WORKS.

By John G. Mattes, Manager.

—, Wisconsin, July 14, 1921.

By nothing do men show their character more than by the things they laugh at.—Goethe.



## Chicago Retail Hardware Dealers' Association Hold Successful Annual Outing.

*Annual Field Day and Picnic Is Attended by Many Dealers with Their Families and Friends.*

On Wednesday, July 20th, the population of Chicago was shifted around very considerably, for on that date, about two hundred retail hardware dealers, accompanied by their families, enjoyed their annual outing and field day, and as specially invited guests there were several hundred salesmen and department managers for wholesale and manufacturing houses.

The scene of the festivities was in Evergreen Park, at Ninety-fifth Street and Kedzie Avenue.

Frank G. Kraft, William Waller, J. Harvey Manny.

Races—S. J. Koehler, Chairman; John Lavelle, David Zweifel, S. Russell, A. Siersma, W. B. Costello, John Smith, John Hora, H. E. Rebman, W. J. Connell, John Fish, Grant Porter, William Stauber, Charles Dalstrom, L. Thomsen, John Mills, A. Helin, Tom Bowler, W. H. Whimpress, Rudolph Wiersig, G. H. Barth, Charles Menzel, Jr., J. E. Lindquist, A. Fisher, Fred Kobich, F. Ruebner and Henry Stuckart.



To say that the affair was successful, is putting it mildly, for everybody had a fine time, forgetting for the moment such things as falling prices, overstock, overhead expenses and other disagreeable points about business.

The officers and committees in charge are to be highly complimented on the manner in which the arrangements were planned and carried into effect.

The officers are:

John M. Wallace, President; Wilbur J. Connell, Vice-president; James Claridge, Treasurer; John Hora, Financial Secretary; S. J. Koehler, Corresponding Secretary and Buyer.

Members of committees follow:

Entertainment Committee—William Triesselmann, Chairman; Charles Stasek, John Schuberth, David Zweifel, S. J. Koehler.

Dance Committee—Fred Ruhling, Chairman; H. E. Rebman, Gus Engelhardt, W. Siewett, J. Schromm.

Committee on Games—

Baseball—H. A. Squibbs, Chairman; Gus Ruhling,

Grove Committee—C. Deinet, Chairman; Martin Engelhardt, John Jordan, Henry J. Spruhan.

Every boy and girl had ice cream cones and crack-jack candy free, and some of the boys and girls who got in line were old enough to vote, but that did not make any difference to "Si" Koehler.

Fred Ruhling and Gus Engelhardt were surely "active" as members of the Dance Committee; there were few dances that they did not take part in.

Billy Waller made a fine umpire in the ball game, although his eyeglasses appeared to affect his judgment on balls and strikes. He was strictly impartial, however, even though there were some who claimed that he had money up on the game.

The busiest man in the park was J. Harvey Manny. When he wasn't dancing, he was shaking hands or rooting for the salesmen's baseball team, but all his rooting didn't make them win.

The "customers'" team won an uphill game in very impressive style by 16 to 15; in the first inning the salesmen got nine runs and the dealers none, but little

by little the margin was cut down by marvelous base running and cleverly placed hits "where nobody ain't," as Fred Ruhling put it.

The teams were composed of the following:

Salesmen—Robitscheck, Goldberg, Cordell, Lander, Lauderhouse, Lauth, Block, Frank, Blum, Hibbard.

Dealers—Hawkins, Schuberth, Gormley, Ruhling, Brauer, Fager, Engelhardt, Vaughn, Berndt, Rebman.

More than one hundred and twenty-five prizes were distributed among the participants in the games and races, and they were well worth competing for. In addition, several unusually valuable prizes distributed among the members and their wives. All prizes were donated by the wholesale and manufacturing concerns.

### **New York City Hardware Dealers Will Hold Picnic September 6th.**

The day after Labor Day—Tuesday, September sixth—is to be the big day of the summer season for the retail hardware dealers for the Manhattan and Bronx Boroughs of New York City, for on that day the Hardware and Supply Dealers' Association of those two boroughs will hold its annual picnic.

Secretary C. H. Tilson states that the committee in charge has already made plans for a campaign to have at least one representative from each firm member, together with family or sweetheart, present at the outing.

### **Trade Opportunities in Foreign Lands.**

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés, is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

35159.—A merchant in Germany desires to represent American manufacturers for the sale of general merchandise. At present he is handling colors and varnishes, asbestos, bicycles and accessories, automobile accessories, vulcanized fiber, writing machines, sewing machines, etc. References.

35161.—A commercial agent in France desires to secure the representation of exporters for the sale of commercial and industrial goods of all kinds.

35192.—A dealer in England desires to secure an agency for the sale of iron and steel manufactured articles, and general produce. Quotations should be given c. i. f. English port. Reference.

35194.—The commissioner of a mission from Switzerland is in the United States and desires to secure an agency for the sale in European countries of machinery, iron and steel products, copper, and chemical products. Reference.

35206.—A commercial agent having trade connections in Chile and other Latin-American countries desires to secure the representation of manufacturers of automobile accessories, hardware, and kindred lines.

35207.—A mercantile firm in England desires to purchase and secure an agency for the sale of aluminum fireless cookers, washing machines, dish-washing machines, and other domestic labor-saving novelties and appliances. Quotations should be given c. i. f. Hull or Liverpool. Payment: Cash with order.

### **Coming Conventions.**

Michigan Sheet Metal Contractors' Association Annual Outing, Grand Rapids, Michigan, July 29 and 30, 1921. Frank E. Ederle, Secretary, 1121 Franklin street, S. E., Grand Rapids, Michigan.

The Western Retail Implement, Vehicle and Hardware Association, Kansas City, Missouri, January 17, 18, 19, 1922. Exhibition at Convention Hall in charge of Louis W. Shouse. Headquarters, Coates House. Sessions in Century Theatre. H. J. Hodge, Secretary, Abilene, Kansas.

Pacific Northwest Hardware and Implement Association Convention, Davenport Hotel, Spokane, Washington, January 17, 18, 19, 20, 1922. E. E. Lucas, Secretary, Hutton Building, Spokane, Washington.

Oregon Retail Hardware and Implement Dealers' Association Convention, Imperial Hotel, Portland, January 24, 25, 26, 27, 1922. E. E. Lucas, Secretary, Hutton Building, Spokane, Washington.

Kentucky Hardware and Implement Association, Jefferson County Armory, Louisville, Kentucky, January 24, 25, 26, and 27, 1922. J. M. Stone, Secretary-Treasurer, Sturgis, Kentucky.

Indiana Retail Hardware Association, Convention and Exhibition, Athenaeum Hall, Indianapolis, January 24, 25, 26, 27, 1922. G. F. Sheely, Secretary, Argos.

West Virginia Hardware Association Convention and Exhibition, Wheeling, January 31, February 1, 2, 1922. James B. Carson, Secretary, 1001 Schwind Building, Dayton, Ohio.

Nebraska Retail Hardware Association Convention, Lincoln, February 7, 8, 9, 10, 1922. George D. Dietz, Secretary, 414-417 Little Building, Lincoln, Nebraska.

Michigan Retail Hardware Association Convention and Exhibit, Grand Rapids, Michigan, February 7, 8, 9 and 10, 1922. Karl S. Judson, Exhibit Manager, 248 Morris Avenue, Grand Rapids, Michigan. A. J. Scott, Secretary, Marine City, Michigan.

Wisconsin Retail Hardware Association Convention and Exhibition, Milwaukee, February 8, 9, 10, 1922. P. J. Jacobs, Secretary, Stevens Point, Wisconsin.

Pennsylvania and Atlantic Seaboard Hardware Association, Inc., Convention and Exhibition, Philadelphia Commercial Museum, Philadelphia, February 13, 14, 15, 16, 17, 1922. Sharon E. Jones, Secretary, 1314 Fulton Building, Pittsburgh.

Illinois Retail Hardware Association Convention, Hotel Sherman, Chicago, February 14, 15, 16, 1922. Leon D. Nish, Secretary, Elgin, Illinois.

Minnesota Retail Hardware Association Convention, St. Paul, February 14, 15, 16, 17, 1922. H. O. Roberts, Secretary, 1030 Metropolitan Life Building, Minneapolis, Minnesota.

Ohio, Hardware Association Convention and Exhibition, Columbus, February 14, 15, 16, 17, 1922. Headquarters, Deshler Hotel. Exhibition, Memorial Hall. James B. Carson, Secretary, 1001 Schwind Building, Dayton, Ohio.

Missouri Retail Hardware Association Convention and Exhibition, St. Louis, Planters Hotel, February 21, 22, 23, 1922. F. X. Becherer, Secretary, 5106 North Broadway, St. Louis, Missouri.

New England Hardware Dealers' Association Convention and Exhibition, Paul Revere Hall, Mechanics' Building, Boston, Massachusetts, February 21, 22, 23, 1922. George A. Fiel, Secretary, 10 High Street, Boston.

New York State Retail Hardware Association Convention and Exhibition, Rochester, February 21, 22, 23, 24, 1922. Exhibition at Exposition Park. Headquarters and sessions at Powers Hotel. J. B. Foley, Secretary, 412-413 City Bank Building, Syracuse, New York.

Hardware Association of the Carolinas Convention, Winston-Salem, North Carolina, May 9, 10, 11, 1922. T. W. Dixon, Secretary-Treasurer, Charlotte, North Carolina.

### **Retail Hardware Doings.**

#### **Iowa.**

Arthur Pryor of Maxwell and Dana Morse of Woodward are the new owners of the Vail Hardware stock.

Charles Seitan has sold his hardware store at Waverly to Mrs. Bessie McCann and Son.

#### **Kansas.**

Bert Pentico has sold his hardware store at Clyde to J. J. Shimek.

#### **New York.**

The partnership of McCrea and Pelton, hardware dealers, 25-27 East Main Street, Middletown, has dissolved, Charles L. Pelton succeeding to the business. Edwin L. McCrea retires, owing to ill health.

#### **Texas.**

Greenville Hardware Company, Greenville, has been incorporated with a capital stock of \$12,000 by Mrs. W. F. Hull, L. R. Campbell, and J. A. Huil.

#### **Wisconsin.**

P. J. Schafer has sold his interest in the Marshfield Hardware and Auto Company at Marshfield, to Louis Trossen and H. W. Burt, and has retired from the business.



# Advertising Help and Comment

**Send Us Copies of Your Advertisements. Let Us Help You Get Bigger Results by Advice and Suggestions. The Service Is Free. Don't Hesitate to Take Advantage of It.**

One of the unintentional results of advertising is that it frequently produces business for other people engaged in the same line of merchandizing as the advertiser.

Thus, for example, the great na-

in their stores their intention is to induce prospective customers to buy from them rather than from their competitors.

One of the first things to consider, therefore, in preparing copy for

sire of the reader on the stock of baseball supplies carried by the Olean Hardware Company. It is too general in character.

Not the faintest notion of prices is given the prospective customer.

The invitation, "Look over our big line," has not enough pulling power to draw the baseball enthusiast to the Olean Hardware Company establishment.

What is needed is some clear statement of special advantage to be had from patronizing the Olean Hardware Company.

\* \* \*

The central idea of the advertisement of Bering-Cortes reproduced herewith from *Houston Post*, Houston, Texas, is that the prospective customer can get dependable service from the builders' hardware which he buys in that company's store.

The idea is further strengthened

## Give Her a Swing



Get into the greatest of games—baseball—with our high class bats, balls, gloves, masks, and other neccessaries of the game. We have the goods you will want, for either professional or amateur use. Look over our big line.

### OLEAN HARDWARE CO., Inc.

153-155 N. Union St. — — PHONE 83

tional game of baseball derives much of its popularity and support from the general publicity given it on the sporting pages of newspapers and through the advertisements of hardware dealers.

Everyone who sells baseball supplies gets some advantage out of the newspaper sporting page publicity as well as out of the advertisement of dealers who offer for sale bats, balls, gloves, masks, etc.

Indeed, it would be no exaggeration to declare that the national game would rapidly dwindle in popularity if mention of the teams and their performances were suddenly to cease in every newspaper and advertisement throughout America.

There are few merchants so altruistical as to spend money exclusively for the promotion of the general interest of the trade.

When they publish and pay for an advertisement of goods carried

a store advertisement is to word it in such a manner as to focus attention upon the store itself as the most desirable and advantageous place in which to buy the commodities advertised.

The Olean Hardware Company advertises baseball supplies in the *Olean Herald*, Olean, New York.

It urges the reader to get in the greatest of games. It tells him that the Olean Hardware Company has the goods that he will want for either professional or amateur use.

There is little if any persuasion, however, in the mere statement that a store has a stock of a certain kind of goods.

But, unless there is definite argument in favor of the advertiser's particular store, such a general appeal is not fruitful in sales. What the advertisement under consideration lacks is focusing power.

It does not center the buying de-



### Dependable Builders' Hardware

if your new home put such hardware that will add to the attractiveness and at the same time give you dependable service. We are prepared to furnish all your hardware needs in grades and at prices that will satisfy entirely. Let us give an estimate on your building hardware needs.

Store Closed Tomorrow  
Account Memorial Day

## BERING-CORTES

HOUSTON'S HARDWARE HOUSE  
Prairie, Corner Milam Street

by the statement that the hardware sold by this company will add to the attractiveness of the home.

In a general advertisement of this kind it is not feasible, perhaps, to set forth prices.

Therefore, the company tells the public that it is prepared to furnish hardware needs in grades and at prices that will satisfy entirely.

The persuasiveness of this copy, however, might be enhanced by giving the price of the door lock shown in the illustration.



# Secretary Williams Pleads for Cooperation on Warm Air Furnace Installation Code.

*Cites Instances of Facts Proven by Experimental Work at Research Bureau of Illinois University.*

At the Annual Convention of the Sheet Metal Contractors' Association of Ohio, which was held July



Allen W. Williams.

19 to 21, at Dayton, Allen W. Williams, the highly efficient Secretary of the National Warm Air Heating and Ventilating Association, delivered an address which is worthy of very careful study by every installer of warm air furnaces, as it contains many points of highly important information.

Secretary Williams' address follows:

**Address by Allen W. Williams.**

An invitation to visit Dayton appeals to everyone, so I am glad to be here and extend the greetings and good wishes of the National Warm Air Heating and Ventilating Association to you. Further than this, Ohio being my native state, I am always particularly interested in the conventions of your Association.

At the meeting of your National organization in Pittsburgh last month, it was my privilege to review shortly conditions in the warm air furnace industry, as the manufacturers see them, and as all of you were not able to be present there, perhaps it will be of some interest if I repeat in substance what I said on that subject at that time. I will also briefly refer to several other matters.

There is no need to tell you that business was dull the last three months of 1920 and the first few months of 1921, but I am glad to add that recent reports from manufacturers indicate a gradual improvement and a growing faith in our business for fall.

After making liberal reductions from estimates by good authorities as to the number of homes needed to house the American people as they should be housed and then cutting that estimate in two, we find reason to feel there is a good business ahead for our industry for several years to come and that the steady increase in residential buildings during the last sixty days supports such a conclusion. We also believe replacements will show marked improvement as fall approaches.

## **Not Opposed to Installation Code.**

Another matter which interests all of us and which is of vital concern to both installer and manufacturer is the subject of Installation Codes. The National Warm Air Heating and Ventilating Association is not opposed to such legislation but has felt that in a desire for immediate state codes there is danger of not having one that is up to date, workable, fair to all. We have

not been indifferent to the subject, for as far back as 1917 a committee from our Association of which Mr. J. M. McHenry was the able chairman, presented a recommended code. This, however, was not an effort to legislate but rather to formulate for reference what appeared to be the best practice at that time. Much of it is all right today. The Committee in presenting their report said:

It occurs to your Committee that a code, to be of any benefit to the public should cover practically every phase of furnace installation. Yet we have not endeavored to cover all phases of the furnace installation in this code because that would make it rather cumbersome, but we have covered enough of the whole matter so that anyone can write from this, with such changes as local conditions may demand, a code that will be of protection to the furnace installer and to the public in general and also protect the installer against the impositions of a shoddy, indifferent contractor.

This is the thing that we want to look out for, especially those of you who are doing business in cities where you must depend largely upon the speculative contractor for your volume of business, for a speculative contractor is not looking for size of furnace, size of registers, size of cold air pipe or anything else. What he wants is a heating plant for "forty-nine dollars." His interest ends there.

Here is a basis that puts you in a position to combat the tendency to depreciate the value of warm air heating systems in the minds of the public by eliminating the use of small undersized furnaces, small pipes, small registers, inadequate cold air supply and all such things.

Our Legislative Committee did not believe last winter that the time was right for the Code Legislation. There were several reasons, some of which were as follows:

## **Cleveland Resolution Paves Way for Cooperation.**

The Research Work at the University of Illinois was developing and promising data that should be recognized in any proposed code, and neither the dealers nor the manufacturers were entirely agreed among themselves as to what a code should contain. The Committee also felt that the cooperation of the American Society of Heating and Ventilating Engineers should be secured.

You have read the resolutions adopted at our Cleveland Convention in May, which are intended to pave the way for cooperation on the part of all interested organizations and engineering societies. They are clear and, we believe, fair. Since then, the cooperation of your National organization has been assured and we feel very certain that the American Society of Heating and Ventilating Engineers, whose cooperation is important in a way will most willingly lend their assistance. As stated in Pittsburgh, while it will not be surprising if there are differences of opinion at the start of this cooperative activity, a foundation has been laid on which to iron out such differences and, what is most essential, have all interested in harmony when a code is finally drafted.

## **Study of Bulletin 120 Recommended.**

I also desire to call attention to Bulletin 120, published at the University of Illinois for our Cleveland

Convention. It is undoubtedly the most valuable and best one that has been issued on our Warm Air Furnace Research activity. If it is technical in part much of it is simple and plain enough for all of us to understand and contains much of interest in connection with the practical, commercial side of our business.

It would be extremely bad taste, to say the least, if I were to assume to tell you how your installations should be made, and I have no such thought or intention, but perhaps I may casually refer to some things that have developed and make some observations without offending your experience and recognized ability and goodnaturedly urge you to take advantage of what the Research Work has developed or proves and publishes in the future for the advancement of warm air heating.

#### **Warm Air Pipes Need Heavier Covering.**

For instance, there appears to have been so much misunderstood as to what the Research Engineers recommended as to covering furnace leader pipes that I made a statement in Pittsburgh which I wish to repeat to you. Neither Professor Willard, nor anybody else that I know of, is opposed to the covering of warm air furnace pipes, but they do recommend that furnace pipes be covered sufficiently, that is with enough insulation to make such a covering efficient and save the 5 per cent fuel loss which occurs when simply one layer of thin asbestos paper is used and which has been demonstrated as worse than no covering at all. The consumer has seen furnace pipes covered with thin asbestos paper for so long, that it is quite probable they would not think an insulation complete if all covering was left off the loaders, but I am sure they will not object to a much heavier covering than has been generally used, in the past, neither will the fire insurance companies find any fault with such an improvement. In Bulletin 120 Professor Willard says:

The results of these tests present very convincing evidence against the use of thin layers of asbestos paper covering on bright tin pipes. The heat loss was 62 per cent greater with one thickness of the paper covering a bright tin pipe than when the same pipe was left uncovered. The importance of this loss may be seen by the fact that it results in a waste of 5 per cent or more of the coal consumed in the average house furnace.

I would like also to incidentally refer to the desirability of larger first floor runs. Offenders are found to a greater extent in the East, but even in grand old Ohio larger runs to first floor registers will make for greater efficiency.

#### **Larger Cold Air Returns Recommended.**

There also seems to be an opportunity for better practice in the sizes of the recirculating duct. The other day a piped job installation came to my attention in which the recirculating duct was 130 per cent of the outlets. We used to think that when using inside air we could get by fine with 100 per cent; then experience moved this ratio up to 120 as ideal, but there is a warm air heating plant laid out by engineers who know and who are unprejudiced, with an inside return air duct 30 per cent larger than the outlet.

I am told that the register temperatures of this installation will be around 140 degrees, but there will be plenty of air at this temperature and that the result is going to be very pleasing indeed to the owner. The answer seems to be plain. Use larger cold air returns.

I know of one installer, whose practice it is to hold a handkerchief over the return grille and if enough velocity develops to move the handkerchief, he concludes the return air capacity of the plant is too small.

We have all heard so much of the necessity of a good chimney, or in other words, a good draft and have wished for them so often without avail, that we almost if not quite accept them as a necessary evil. If there is one thing that a code should contain it should be something that will assure proper drafts, for if they are obtainable, by any way on earth, half our heating problems will be eliminated.

In Germany, chimneys must be right and unless built according to Government requirements no installer can be held responsible for the result obtained from the heating plant proper. It would be an excellent investment to educate the entire public as to the value of good chimneys, and see that they come to know how much a good flue has to do with the capacity and efficiency of a warm air furnace. A good flue is equally important to the boiler and stove manufacturer. Better chimneys can be secured, if we not only pray for them, but work for them. The National Board of Fire Underwriters, a powerful influence, have been working with us for better flues and safer chimneys. We hope you will lend your aid.

#### **To Short Testing of Individual Warm Air Furnaces.**

The latter part of June our Advisory Committee on Warm Air Furnace Research visited the University of Illinois and the work of this activity for the immediate future was planned. One thing that will receive early attention is casing diameters, as it is believed there is need of correct information as to their proportions and room for improvement in that direction. Our Research work is now down to subjects that will have a direct bearing on the commercial side of the business. This naturally will be more interesting to you as installers than has been the work of obtaining equipment and necessary engineering data.

Our purpose of securing either by rent or purchase, a dwelling in which tests may be conducted under conditions similar to those encountered in every day installations was carefully considered. Up to this time, no tests have been run on individual furnaces, statements of ambitious salesmen to the contrary notwithstanding. As a saving of both time and expense, it is quite possible that we will rent at first, but our Committee feels that ultimately a house will be purchased or constructed. I do not look for radical changes of design to result from our Research Work, but rather for better or more correct proportions which will make for more efficient and satisfactory heaters.

A few years ago, economy in fuel was not taken very seriously as an argument in favor of any kind of a domestic heater, but conditions have changed and any saving that can be made in the fuel consumed now attracts the customer. Someone has said that we have been living in a period of extravagance and that the time has come when economy must be practiced not from choice but from necessity.

#### **Blower Fans Increase Heating Capacity.**

I hold no brief for any particular fan or blower for use in connection with domestic heating, but the pre



liminary experiments with that accessory have not only been extremely interesting, but show some remarkable results, and were I am installer I would feel justified in giving the fan or blower careful consideration.

There is no question, but what they do increase the capacity of a furnace very materially and very promptly and that the initial cost as well as the expense of operation, are both within reason. They are neither intended or necessary for continuous use.

As Mr. F. R. Still, the recognized authority, stated in addressing our last convention, "If a warm air heater and its installation could be more perfect there would be no occasion for a fan, and while it should not be considered as a cure-all it would be found a very valuable accessory, which at present is being developed along lines that will make its use practical.

The furnace industry, both as to dealers and manu-

facturers, is well organized for the advancement of Warm Air Heating. An active year has been planned for the National Warm Air Heating and Ventilating Association, and it is evident that your state organization and your National Association will continue their splendid aggressive work.

In no business are there more friendly relations between the organizations of dealers and manufacturers, nor is there any in which interests are more mutual. There is no one-sided circle about it. Let us foster this pleasant and profitable condition. There is no more honorable business than the one in which we are engaged, but we must not forget that the heating of the great American homes carries with it a moral obligation to do the best we know how, it will be our shame if we do less. This is not sentiment, but a very serious fact.

## *Jesse McHenry Says It's Dangerous to Throw Stones From Omaha to Utica.*

### *Calls Attention to Serious Inconsistencies in Proposed Nebraska Code and Cites Incorrect Ratings by Manufacturers.*

The following characteristic letter has been received from Jesse M. McHenry, recognized as one of the best posted warm air heating men in the United States.

Mr. McHenry, we believe, is doing the right thing by attempting "to pour oil on the troubled waters," as he puts it, and suggests that a conference, such as is proposed by the National Warm Air Heating and Ventilating Association, and to which the National Association of Sheet Metal Contractors has voted to send delegates, will make it possible to iron out the differences which exist, in regard to legislation by which the installation of warm air heating apparatus may be regulated.

He calls attention to some serious errors in the so-called Nebraska Code and also points out bad inconsistencies in some ratings of warm air heaters "guaranteed" by certain manufacturers.

Mr. McHenry's letter follows:

TO AMERICAN ARTISAN AND HARDWARE RECORD:

With your permission, I desire to pour a little oil on the troubled waters.

It may spread and ignite and become a conflagration. Should that occur, we can enjoy it just the same, sitting by and observing the spectacular demonstration.

All this fussing about codes and legislation, so far as I am capable of judging, is destructive instead of constructive. Then why not desist and instead adopt a plan of procedure that will be conducive to progress? Let the contending parties get together for a heart-to-heart talk with each other.

It's a long way to throw stones from Omaha to Utica, Columbus or Cincinnati. Indulging in these long distance practices may result in hitting and injuring some innocent bystander. Better get together, fellows, and smoke the pipe of peace. It's more fun and less dangerous.

I am friendly toward the right kind of legislation, a species which, so far as my observation goes has not

yet been produced. I believe that I am justified in the statement that virtually all efforts in this direction bear me out in this contention. In substantiation, I summon, as a competent witness, the code introduced at the recent session of the Nebraska Legislators.

In the first place, the code is too loosely written to be enforceable. I cite several instances:

A Section referring to casings reads as follows: "All portable furnaces shall have double casings with air chamber between of not less than one inch."

Those familiar with the art of heating understand the intention of the clause, but in reality it does not clearly state the purpose for which it was written. A literal interpretation of the clause would be, "That all furnaces should have double casings and that one inch air space should be maintained between the casing and the furnace."

Another Section reads in part as follows: "All smoke stacks shall be made of "I C" or "I X" tin not lighter than 24 gauge, and shall have clearance from any combustible material at all points of not less than 16 inches."

Note the restriction, please—a space of not less than 16 inches must be maintained between the smoke pipe and any combustible material. Now let us note the conflict with this requirement appearing in a later clause of the same section, reading as follows:

"When passing thru the roof, metal stacks are to be guarded by galvanized iron ventilating thimbles."

One clause requires 16 inches—the other a ventilating thimble. The conflict and inconsistency is apparent to the dullest eye.

Another Section requires that wall stacks and fittings thereto be made of coke tin or galvanized iron. According to this section, the fellow who might use stacks made of "I C or "I X" tin subjects himself to a fine or a jail sentence.

Stacks and fittings may be made of coke tin, presum-



ably because it's about the cheapest material from which they could be constructed—yet the connecting basement pipe must be made of nothing lighter than "I C" bright tin.

A certain Section requires that double boxes for registers having free area of 175 square inches shall be made so that spaces of not less than  $5/16$  inch shall be maintained between the inside and outside box. Boxes for larger sized registers must have intervening spaces not less than  $5/8$  inch.

Legislation, to be effective, must be reasonable and consistent. The requirement of this section, being neither reasonable nor consistent, would not be sustained by any Court.

It may be helpful, or at least slightly interesting to illustrate the existing inconsistency of this particular section. To do that, may I assume a condition requiring the use of two floor registers, one  $9 \times 12$ ; the other  $16 \times 24$ .

Without any attempt to be absolutely accurate, let us say the outside boxes measure  $10 \times 13$  and  $17 \times 25$  respectively. The distance around the smaller of the two boxes would be 46 inches.

The area of a standard collar ( $9$  inch diameter) for this box would be 63 inches. The ratio of exposed metal of the box to the area of the warm air passage would be 73 per cent. That is to say, the distances around the outside box representing the exposure to surrounding combustible material is 73 per cent of the area of the connecting round pipe expressed in square inches.

By this same method of calculation, it is found that the ratio for the larger box and collar is but 42 per cent. Is it not clear from this example that if spaces are to be arbitrarily specified and controlled through legislation, the figures should be reversed, making it necessary to provide  $5/8$  inch spaces for the small and  $3/16$  inch permissible for the larger sizes?

The witness is dismissed, although a further examination would reveal greater discrepancies than those mentioned.

I wish to disclaim any intention or desire to criticize or belittle the friends of this code because they are all my friends, too. I have simply revealed some facts for a purpose and rather believe that the readers of this article will understand that purpose.

May I repeat that I am not opposed to any form of reasonable and consistent legislation. I am, however, unalterably opposed to any code that in its effect would be discriminatory, whether or not so intended.

Legislation to be of any special value to the public or the industry, must deal clearly and emphatically with the unit which is the basis of more troubles, operating and maintenance expense, and real discomforts than all other influences combined. The heater itself, whether a furnace or a boiler, is the great offender and the reason for this is the common practice of manufacturers of overrating the actual heating capacity of their product.

Instead of continuing to so severely criticize the installers, I am impressed with the fact that many jobbers and manufacturers need to reform themselves.

In substantiation of my contention in this particular,

I shall have to refer to only a few of the outstanding evidences of this fact.

I have in mind, an old and experienced manufacturer which has recently introduced a new line of furnaces. The largest size of the line has a grate area in excess of that of the smallest size equal to 180 per cent. Of these two furnaces the casing area of the larger is 125 per cent in excess of that of the smaller. The excess of the rated heating capacity of the larger as compared with the smaller is 316 per cent.

Another case, figured on the same basis shows a variation as follows: Grates 170 per cent, casing 150 per cent, heating capacity in cubic feet, 483 per cent. Here is the funny part of that brother's catalog figures:

His largest furnace has a rated heating capacity in cubic feet 483 per cent in excess of that of his smallest size, but his pipe area which is also given in his catalog is only 190 per cent—483 per cent by one method of rating and only 190 per cent by the other.

One more example and I shall have finished.

A comparison of two sizes of furnaces made by a prominent manufacturer results as follows:

The casing of the larger is 85 per cent in excess of that of the smaller. By actual measurement, the heating surface of the larger is less than 50 per cent in excess of the smaller; yet, in spite of this, the square inch pipe area rating of the former is 250 per cent in excess of the other.

These are only a few of the scores of cases that might be cited in support of my contention, that our basic trouble and that which first should be remedied, is the capacity rating abuses.

It seems to me, that it is high time for makers and jobbers to quit abusing the so-called unscrupulous installer and initiate a reformation in their own camps. The dealers are conscientious fellows; I know this from personal contact. Their sins are as nothing in comparison with that of the overzealous, capacity rating fiend.

My purpose in writing is to show, if possible, that we are not now ready to promote legislation and will not be, until reliable—engineering—data are available on which a sound and safe code may be constructed.

My purpose is revealed and with this I close.

JESSE M. MCHENRY.

Saint Louis, Missouri, July 13, 1921.

### **President Jones Appoints Advisory Committee on Warm Air Furnace Research.**

The following have been appointed by President I. L. Jones, of the National Warm Air Heating and Ventilating Association, to serve as members of the Advisory Committee on Warm Air Furnace Research:

P. J. Dougherty, Utica, New York; E. S. Moncrief, Cleveland, Ohio; E. B. Langenberg, Saint Louis, Missouri; F. W. Phelps, Joliet, Illinois; F. R. Still, Detroit, Michigan; R. W. Menk, Chicago, Illinois; Roy E. Lynd, New York City. It is the intention of the Association to have those who are actively engaged in the practice make recommendations as to what the warm air furnace industry requires, so that the research work done at the University of Illinois may be of the most practical and valuable character.

# Practical Helps for Tinsmiths

*No Two Jobs Are Exactly Alike. Therefore, the Sheet Metal Worker Has to Meet Each Difficulty as It Comes. Send Your Problems to Us. Let Our Experts Help You.*

## PATTERN FOR FENDER SPLASH GUARD.

By O. W. Kothe, Principal St. Louis Technical Institute and Instructor in the David Rankin, Jr., School of Mechanical Trades, St. Louis, Missouri. Written especially for American Artisan and Hardware Record.

At this day and time fenders are getting to be pretty much of a manufactured article.

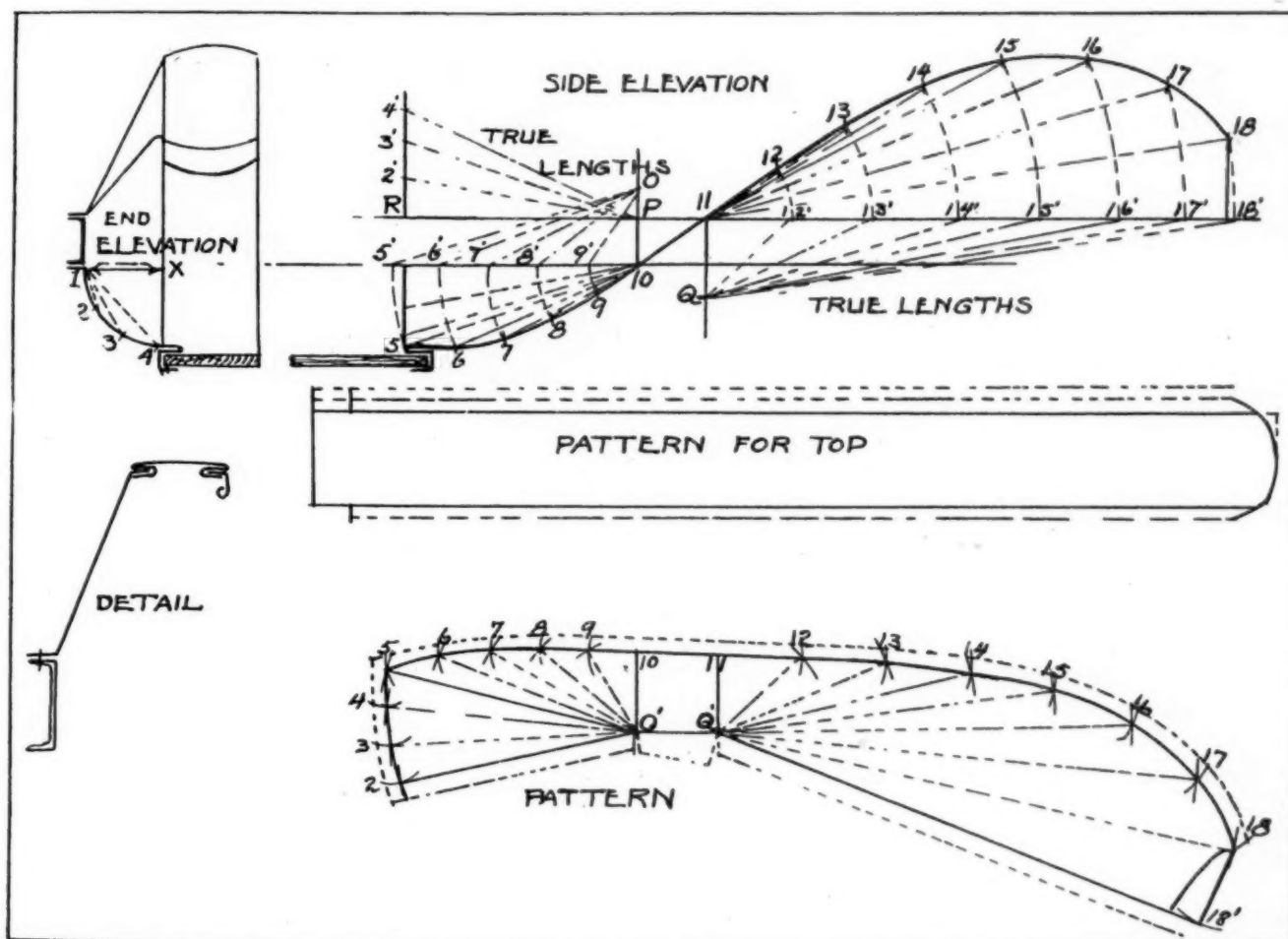
Even well-equipped shops are getting in the habit of sending to the factory for such things. Still work-

convex and also by round cornered rectangle shape.

Divide the cove 1-4 in equal spaces and draw lines as shown. Also divide the edge line of side elevation 5-11-18 in equal spaces, making the spaces between 11 to 18 greater apart than those between 5-10.

By drawing lines to the points 10 and 11 you have the effect of lines as they appear on the splash guard.

To find the true lengths, observe the flare of end elevation is 1-x, and so we pick this rise, and set as 11-Q; also 10-O.



Pattern for Fender Splash Guard.

men must repair them, fill in parts and here and there make fenders complete.

The design of fenders varies considerably. Some are stamped out in such a way that it is very tedious and difficult to make by hand.

In this case we show a fender often met with and that can be really made in the shop.

For a fender as we show, first draw the outline of top edge as 5-11-18. The exact curve can be made to suit measurements.

It is well to draw the end elevation, because by it the side elevation can be better regulated.

Sometimes the cove 1-4 is made ogee shape, other

We then use points 11 as center and points 12-13-14-15, etc., as radius, sweep arcs to base line 11-18' as 12'-13'-14'-15', etc.

Draw lines from these points to Q and you have the true lengths for the upper part.

Repeat this for the lower part by using point 10 as center and 9-8-7-6-5 as radius, sweep them to base line 11-5'.

Draw lines to point O and you have the true lengths for the lower part.

Now for the cove of end elevation, observe P-R is the length, so pick the lines as 1-4; 1-3; 1-2 and set as R-2'-3'-4'. Lines drawn to P will be the true lengths



To set out the pattern draw a line as 10-11, equal to that of elevation, and drop down lines as 11-Q' and 10-o' equal to 1-x of end elevation.

Then pick Q-12' and from Q' cross arcs in point 12.

Next set arc 13 and cross with true length Q-13'. Continue in this way until the pattern is shown.

The top of fender is merely a straight strip, which must be shaped is then bumped to take on the curve as shown in detail.

The soldered or riveted lock can be used here.

### ***Plans All Completed for Outing of Michigan Sheet Metal Contractors.***

Charles Heth, General Chairman of the Michigan Sheet Contractors Outing, which is to be held in Grand Rapids, July 29-30, called a special meeting on Friday night, July 15th, for the purpose of hearing reports from the various committee.

Joe Van Rossum, of the Banquet Committee, reported that the banquet and entertainment for Friday evening had been turned over to the Wholesalers' Association who are taking complete charge of this event.

The Reception Committee, in charge of J. J. Sweet, has arranged for automobiles to meet all incoming trains and do such other courtesies which will make the visitors feel welcome. The entire delegation from Grand Rapids will be at the Hotel Pantlind Thursday evening and early Friday morning.

Ed Dyksterhuis, of the Finance Committee, reported that sufficient funds had been raised to take care of all expenses.

The Prize Committee, headed by Gilbert Moore, stated that they had secured a great many prizes already but more were needed and a further effort will be made along this line.

Charles Weatherly of the Sight Seeing Committee, had not decided definitely as yet on the route which will be followed but promised to announce the route next week.

The Entertainment Committee, with Harry Rhodes as chairman, has arrived at the various stunts which are to be pulled. However, they are keeping very quiet about their plans, as they prefer to spring them as surprises.

An added attraction for Friday forenoon has been arranged for. Through the courtesy of Berkey & Gay, a trip will be made through their sample rooms. This exhibit is the largest of its kind in the world and the factory is also the largest plant in existence making high-grade furniture.

To get all members of the Grand Rapids Heating and Sheet Metal Contractors' Associations and their families better acquainted, a dinner party has been arranged for at Grand View Auto Club on Saturday evening, July 23rd. Local members of the Travelers' Auxiliary will also attend. This affair is in charge of Victor U. Heather and Charles Heth.

That the Grand Rapids members believe in preparedness is quite certain. An evidence of their thoughtfulness is shown by their securing a service car to accompany the sight seeing tour and also for the trip to the Auto Club on Friday night. Two men will be with the car to render service free on the trips. No

charge will be made for changing tires or making minor adjustments. They will carry a stock of nearly all sizes of tires and tubes and such other repairs as might be needed.

### ***Chinese Pagoda in St. Louis Shows Adaptability of Sheet Zinc.***

Some people have a notion that zinc is too brittle and breaks too easily to make this metal practical for ornamental work, but we show herewith a reproduction of the Chinese Pagoda in the Zoological Gardens of



Chinese Pagoda in Saint Louis Zoological Gardens. Roof and Ornamental Work Is Made of Sheet Zinc.

Saint Louis, Missouri, of which the entire roof and all the ornaments are made of sheet zinc.

Those fierce looking beasts on the corners are typical Chinese dragons and with the other special ornaments were made of sheet zinc in the factory of Gerock Brothers Manufacturing Company, Saint Louis, Missouri.

### ***The Retailer Who Is Worth While Cannot Be Forced.***

It's remarkable how seldom one hears nowadays of a manufacturer who is planning to "force" merchants in a given line to stock his goods.

It's not because manufacturers have any less respect for the power of advertising, which was usually the "forcing" weapon, but because they have more respect for the retailers.

The man who supplies the ultimate consumer is generally the key to the merchandising situation. If the dealer has it, the consumers will get it; if the dealer wants it, the jobber will carry it.

The wise manufacturer therefore studies the retailer, finds out what he wants and proceeds to give it to him.

Some of the most brilliant advertising now being done is directed to the retailer, and the pages of the merchandising publications are reflecting the increased attention paid to the dealer in sales and advertising plans.—Publishers' Page in *Class*.



# Good Fellowship Prevails in Convention of Master Sheet Metal Contractors' Association of Ohio.

*Promotion of the Individual Member's Welfare by Improvement of Trade Conditions Is the Purpose of the Association.*

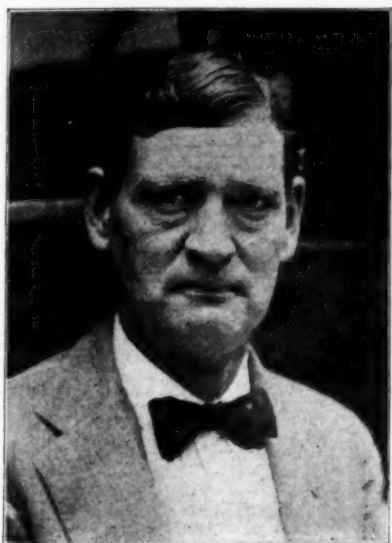
Cash registers solve many business difficulties. But they do not take the place of the warm hand clasp, the cheerful tone of voice, and the friendliness of the human beings whose personalities make or mar business.

The city of cash registers, Dayton, Ohio, was the scene of the Seventh Annual Convention of the Master Sheet Metal Contractors' Association of Ohio. The organization is the instrumentality through which the Sheet Metal Contractors of Ohio are able to solve business difficulties, and to increase their efficiency. It is comparable in a way to a mechanism; it needs the

to have you and we hope you will stay a long time," he told them, "and we hope you will come again and come often. The city is yours while you are here and we want you to have a good time, so if you do not see what you want ask for it."

President A. E. Munkel made a pleasant and appropriate response to the Mayor's address of welcome and then the session listened to S. Eisenberger, Chairman of the Convention Committee, who gave an outline of the program and entertainment for the ensuing sessions.

A roll call of officers showed that all were present



Reading from left to right: W. J. Kaiser, Secretary, A. E. Munkel, President, and J. D. Gerken, Vice-president, all re-elected to their offices in Mastter Sheet Metal Contractors' Association of Ohio

strong, pulsing human interest to be made means for the highest form of success.

The progress of the sheet metal trade in Ohio, the development of high standards of skill and the upward trend of trade ethics of the Master Sheet Metal Contractors' Association of Ohio are results which have been achieved and are in process of achievement because the organization is kept functioning at its highest power through good fellowship as well as intelligence and enthusiasm.

It is natural, therefore, that the most striking characteristic of the convention of the Association which was held July 19, 20 and 21, in Gibbons Hotel, Dayton, Ohio, should be the spirit of fellowship—the sense of community of interests vitalized by a genuine kinship of purpose and ambition.

**Tuesday, July 19, 1921.**

The first session of the convention was called to order in the American dining room of Gibbons Hotel at 1:30 o'clock Tuesday afternoon by President A. E. Munkel of Columbus. Mayor J. M. Switzer welcomed the visitors on behalf of the city of Dayton.

"You are more than welcome. We are mighty glad

with the exception of Treasurer W. J. Birmingham, who was absent because of the illness of his daughter.

Following the roll call came the report of President A. E. Munkel, the text of which is as follows:

**Report of President A. E. Munkel to the Convention of Master Sheet Metal Contractors' Association of Ohio, July 19, in Dayton, Ohio.**

"The past year has been a very trying period for most business men, and as a consequence has had its reflection on our Association. Yet while our association has not grown in numbers, I sincerely believe that our membership has been more closely cemented this past year and that we stand together greater and better than ever as an Association.

"To bring about such results has meant quite a lot of hard work, but at the same time, I am sure has been a pleasure for all of your officers. Now, in my opinion, in order to have an Association thrive, gain in number and expand in all ways, requires the untiring efforts of some good man or group of men, who can devote their entire efforts along these lines.

**Question of a Paid State Secretary.**

"During the past year the officers of your associa-

tions attempted to put over a proposition in the way of a Paid State Secretary. This movement met with enough opposition to have the same die a natural death, that is, the officers wishing or feeling that all of its membership should be satisfied, in order to maintain the same harmonious feeling that still exists, let the matter drop, temporarily, to be again taken up at this convention.

to how this should be brought about, but the point I am making is, that we should at this time take final action on this most important proposition.

#### Urges Salesmen's Auxiliary for Ohio.

"We are all aware of the fact that the Salesmen's Auxiliary has proved to be a wonderful aid and benefit in gaining new members, and as this custom is now in vogue, in Indiana, Michigan, Missouri, Illinois, Iowa



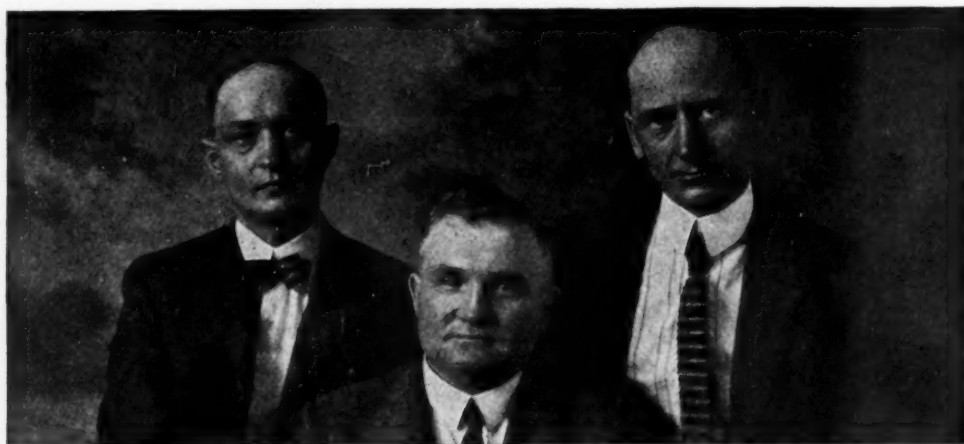
Convention Committee: Reading from left to right, A. A. Smith, F. J. Hoersting, P. R. Sullivan, F. E. McBride, S. Eisenberger, Chairman.

"Now gentlemen, in as much as you have had a year in which to think this proposition over, I only trust that a movement will be sponsored at this time, whereby the duties of secretaryship will not be thrown on any single member without compensation. Any of the membership who attended the National Convention at Pittsburgh will remember that a resolution was passed whereby in the future it will be the duty of each state secretary to collect the per capita tax from each local and forward to the National Secretary. You should realize that it is an imposition to ask any one of our members to assume this thankless position and I believe that while we have had a man, in the person of W. J.

and Pennsylvania, it would, without a doubt, be of unlimited value to us. Mr. Norman, the father of this movement in Indiana, I notice will address us during this convention, and we hope to gain, through his recommendation the manner in which to go about this, in order to form such an Auxiliary in Ohio.

#### Not Pessimistic as to Future.

"In returning to my opening remarks, regarding the trying period of the past year, wish to remark that we should not feel pessimistic as to the future, for we should all realize that the time had come when business conditions were next to unbearable, labor could not be had, materials were hard to obtain, every one was be-



Officers of the Dayton Association: Reading from left to right, Otto Young, Secretary; A. A. Smith, President; Louis R. Holtman, Treasurer.

Kaiser, who has been a good and faithful servant for the past years, we should not continue to impose on good nature.

"As your president, I do not wish to convey the idea that I feel that a paid secretary for organizing a larger association, is the only manner in which to bring about a larger and better association. No doubt there are enough members present with a much better idea as

coming very extravagant, and in fact none of us realized the value of a dollar. We knew that such conditions could not go on forever, that there must be a day of reckoning. That day has come, we are in the midst of that very day.

"The day of reckoning. What does it mean? I will try and explain. It means that we must all come down to earth, as we were flying entirely too high and liable



to drop out of our aeroplane. Some of us did and it knocked most of the breath out of us. It means that after all we must start to practice economy again, give service, treat our customers with more courtesy, more respect and more consideration.

"Remember, I do not wish to leave the impression that we, as business men, brought this condition of affairs about from any desire of our own. No, far be it



W. E. Lamneck,  
re-elected to Board  
of Directors of Mas-  
ter Sheet Metal  
Contractors' Asso-  
ciation of Ohio.

from that, but, general conditions brought about by the World War were wholly responsible for these conditions.

#### Conditions Never as Dark as Painted.

"We meet salesmen in every line who complain about there being no business. This is not necessarily a proof of the general business condition, for is it not a fact that the majority of firms had bought quite heavily at the time this business slump came on and is it not quite natural that we would liquidate by getting rid of the old stock before placing orders for future stock on a declining market. My personal impression is that conditions have never been as dark as some have tried to paint them.

"We should all know that we are living in the best country under the sun, with the best form of government, the best race of people, the best climatic conditions and last, but not least, the richest country in the world. Tell me, how can we help but prosper? Business conditions will right themselves, but this will require a little time. If we have been ailing for three or four years, we should not expect to recover fully over night.

#### All Should Aid in Restoring Prosperity.

"We must all do our part to aid in bringing back normal business conditions. I sincerely believe that if there ever was a time in which business should be taken on a close margin of profit, it is now. We must bear in mind that the war is over, that the majority of us made a very good margin of profit in the past three or four years. I do not wish to impress you, that you should do business at a loss or at cost, but if there is any one measure that will restore public confidence, it will be at the time, when they can realize that something near the low bottom has been reached. Consequently the public at large will resume the building of homes; factories and business in general will take on a different aspect.

"I believe the larger manufacturers have realized this fact for some time past and candidly, if the truth were known, I am positive that you will find some of them operating at a loss.

#### Advocates Adequate Wages.

"In order to take business at a small percentage of profit it is only natural that we should expect the workmen's cooperation. By this, I believe that wages in case they have not been reduced, should by all means be brought down to a scale in proportion to the drop in the cost of living. One thing is certain, we should by all means, as a general rule, pay our mechanics as much as other trades are paying. Did it ever occur to you that the shortage of skilled sheet metal mechanics, has been in a large measure, due in some cases to an unscrupulous employer? We as business men must realize that in order to make it worth a young man's time to learn a trade, he will invariably look into the future far enough to see what we will realize from his services after he has once learned his trade.

"I can say conscientiously, after eighteen years of experience in the sheet metal industry, that until the last four or five years, the sheet metal worker was underpaid, and as a consequence, we got just the kind of mechanics we paid for.

#### Training Apprentices.

"I believe that this association should adopt some method whereby the apprentice would feel more inclined to learn the sheet metal trade, either by cooperation with trade schools in the different cities or by having some course of sheet metal adopted by the city schools. This practice of teaching in the grade schools is now in practice, I understand, in some of the larger cities, but, what I would suggest is cooperation or support from our different locals to our local boards of Education.

#### Exchange of Visits Is Helpful.

"Our association has been greatly benefited by the



L. W. Henslee,  
Hold-over Director  
of Master Sheet  
Metal Contractors'  
Association of Ohio.

visitation program which was carried on to quite an extent this last year. Personally, I had the pleasure of calling on the locals at Newark, where the Zanesville boys were present; Youngstown, where the Pittsburgh local was represented; Warren, Cleveland, Cincinnati, Springfield and a board of directors meeting at Dayton. These meetings, I am positive proved beneficial to all, for the reason we learned to call the other fellow by the

first name, received some new ideas about the business and at the same time, the good fellowship that prevailed at these meetings more than repaid each and every one of us, for the time it required and the small expenses incurred.

"I wish further to state that I am glad to say that at each meeting some of the same good spirit existed as of yore.

#### **The Trade Deserves Public Esteem.**

"You certainly realize, gentlemen, that the more proficient we become in our business, the more money we make and the more respect we gain from the public in general. Our business is certainly a most legitimate one and one which at all times deserves public respect and esteem. When we are obtaining a certain contract we certainly should impress upon our customer that he is not only buying so much material and labor, but that he is buying some material, a little labor and a vast amount of service gained through years of hard work and many pleasing as well as sad experiences.

#### **Approves Installation Laws.**

"Those of you who have read the Journal covering the National Convention, will note in resolutions passed, there was one resolution which I believed should receive the moral support of every member. That is the resolution pertaining to regulation of warm air furnaces in residences. It is high time that we, as an association, look into this matter and defeat the selfish manufacturer who cares not to whom he sells his furnaces. Be it a blacksmith, veterinary surgeon, carpenter, or bootlegger, all look alike to him. We certainly as an association, affiliated with the National Association, can bring about enough prestige to see that furnaces are handled by legitimate and competent furnace dealers. The poor installation of any warm air furnace is a reflection on our business, and regulation on installation of residence furnaces will go farther to curb such practice than any other means that I think of. We certainly must tie into this responsibility in an honest to goodness manner if we expect to gain our point.

"In conclusion I wish to thank all of the officers who have served with me and the membership at large who have assisted in the work of the Association, for their fine spirit of cooperation. We wish to express our thanks for the help given us by the Trade Journals, as we are sure the publicity gained in this manner has been very beneficial."

At the close of President Munkel's annual message to the Association, Secretary W. J. Kaiser read his report showing the work accomplished through the secretary's office in forwarding the interest of the Association.

E. W. Norman of Indianapolis, President of the Jobbers and Salesmen's Auxiliary of Indiana, then addressed the convention on the benefits to be drawn from cooperation between the Sheet Metal Contractors and Travelers and Salesmen's Auxiliary. So convincing and persuasive was his brief and terse speech that in a few minutes he had the Jobbers' and Salesmen's Auxiliary to the Master Sheet Metal Contractors' Association of Ohio actually started as a definite organization.

Elsewhere in this issue of AMERICAN ARTISAN AND HARDWARE RECORD will be found the story of this new auxiliary and personnel of its officers.

Mr. Norman was accompanied by a delegation from Indianapolis who helped in the formation of the new auxiliary and assisted in making the Ohio convention a success. Those who constituted the Indiana delegation are:

E. W. Norman  
Joseph Gardner  
Joseph Mattingly  
Ralph Reeder  
Harry Beaman  
Robert Kruse  
F. A. Wilkening  
W. F. McClain  
Tom Lavery

C. H. Tarpenning  
Frank Lauck  
Mr. Greenbaum  
W. S. Waters  
Harry Jones  
Leslie Beach  
Mr. Rolland  
J. C. Kreidt  
Ray Vardemark

The Indiana delegation, with pardonable pride and fervor stood up in a body and sang the following song boosting the National Convention at Indianapolis in



**E. W. Norman,**  
President of the Jobbers' and Salesmen's Auxiliary of Indiana, Who Helped Organize the Ohio Auxiliary.

1922. It was composed by W. S. Waters on the train from Indianapolis to Dayton and was sung to the tune of Indiana:

We welcome you to Indiana  
In 1922  
The Boys will all be there  
To Shoot Warm Air  
And the Roofing Crowd there, too  
Sheet Metal Work in all its glory  
Will be boosted to the Sky  
And the moon that shines tonight  
Along the Wabash  
Will be hammered out of  
Copper bye and bye.

Short talks were made by Joseph Gardner, President of the Indiana Sheet Metal Contractors' Association and Ralph Reeder Secretary of that organization and by Joseph Mattingly, Second Vice-President of the Indiana Jobbers' and Salesmen's Auxiliary.

Tuesday afternoon was given to a "stag" picnic for the men and theatre and dinner party for the women guests.

#### **Wednesday, July 20, 1921.**

Wednesday morning at 9:00 o'clock the secretaries of local associations connected with the Master Sheet Metal Contractors' Association of Ohio met to discuss ways and means looking for the betterment of the association.

The general convention resumed its sessions at 9:30 with an address by Allen W. Williams, Secretary, National Warm Air Heating and Ventilating Association. Mr. Williams' speech is printed as a separate



article in this issue of AMERICAN ARTISAN AND HARDWARE RECORD because it deals with a topic which is now exercising the best thought of the trade in America.

George Harms, Past President, National Association of Sheet Metal Contractors was scheduled on the program for an address but was unable to attend. His place was taken by George Thesmacher of Cleveland, Ohio, who spoke instructively on the subject of Trade Development.

President Munkel called upon Past Presidents F. J. Hoersting and John Weigel, who gave short and pleasing talks on the work of the Association and the things which it can accomplish as it grows in numbers and experience.

W. E. Lamneck of W. E. Lamneck Company, Columbus, Ohio, who is one of the Directors of the Ohio Association, gave a graphic and interesting account of what happened at the recent convention of the National Association in Pittsburgh and referred particularly to the tasks which confront the Heating Legislation Committee appointed at the Pittsburgh convention to work with the National Warm Air Heating and Ventilating Association. He outlined the things which this Committee hopes to accomplish. In conclusion he urged the members to do their share toward furthering the plans of the National Association for trade development.

Edwin L. Seabrook, Secretary National Association of Sheet Metal Contractors' Association, also spoke on matters of general significance to the membership and predicted greater benefits for the sheet metal contractors of the country as a result of the growing solidarity of the association.

In the afternoon all the members and their ladies were taken in automobiles to the National Cash Register plant where they were guests at luncheon of John H. Patterson, President of the National Cash Register Company. Following the luncheon the parties were divided into groups with a guide for each and shown through the plant where the various processes of the manufacture and assembling of the cash register were explained to them.

The factory trip ended at the National Cash Register School House where a special entertainment was staged for the visitors.

Wednesday evening at 6:30 o'clock men and women attending the convention were taken by automobile to Hills and Dales where dinner, and dance was held in their honor in the Old Barn Club, a picturesque establishment up in the hills. Four hundred members and guests sat down to a bountiful repast of perfectly cooked chicken and other savory viands. The dinner was served in the main dining room and on the lawn.

The weather was ideal—cool enough to enjoy dancing—and the music was of the best and played with swing and verve which set everyone's nerves joyously vibrating.

The dancing pavilion is out in the open air. It has a real floor. No wonder everyone stayed till midnight and reluctantly went home when the lights died out.

Thursday, July 21, 1921.

Thursday morning's session opened with an address by James B. Carson, Secretary, Ohio Hardware Association.

He spoke on association work and told how the Ohio Hardware Association helps its members, and how the Master Sheet Metal Contractors' Association can in a similar way work for its members, improving the trade in general. Mr. Carson urged the necessity of cooperation between members and officers in order to achieve the utmost benefits for all concerned.

Sidney S. Kusworm, a lawyer of Dayton, next addressed the assembly on the theme of "Religion of Business."

"There is a religion of business," Mr. Kusworm said. "It is just three things: (1) Honesty to your custom-



James B. Carson, Secretary Ohio Hardware Association, Who Spoke at Opening of Thursday's Session.

ers; (2) Cooperation with your associates, your competitors, and your employees; (3) Loyalty to your country.

"None of these three elements can be dispensed with," he continued. "Nothing can be gained without inspiration. Inspiration comes from the heart. History shows that the men who were successful, that the man who built the most modern factory in the world, were inspired and the inspiration came from the heart, because they were honest; they cooperated with their business associates, their competitor, and treated their employees decently; they were absolutely loyal to their country, to their cities, and to their community."

Mr. Kusworm urged his audience to be better business men, and to conduct their business affairs in such a way that they would be proud to have their sons when they grow up follow right in their footsteps.

"True happiness in life," he said, "comes from the care of your children, your wives and your family. Conduct yourself so that they will be proud of you, that you will be proud of yourself, and happy to have them carry on your work."

Following Mr. Kusworm's eloquent address came the reports of the committees which were all accepted as read. The Auditing Committee consisted of William Dietz, John Vogeli, and John Graham.

The Credentials Committee was made up of H. A. Haslett, A. A. Smith, and John Lody.

The Resolutions Committee, consisting of George Thesmacher, John Gerken, and F. J. Hoersting, offered the following resolutions:

Resolved that the Master Sheet Metal Contractors' Association of Ohio endorse the new Jobbers' and Salesmen's Auxiliary and pledge their support to it;

Resolution of thanks to E. W. Norman and the Indiana Delegation of "Boosters" for coming to Dayton and starting the new auxiliary;

Resolved that the Master Sheet Metal Contractors of Ohio show appreciation of the efforts and splendid work of the Trade Development Committee of the National Association and particularly the new Reference Book soon to be published and that the Board of Directors be authorized to subscribe such a sum as may meet their approval toward the Trade Development Fund;

Resolution of thanks to the Dayton Association of Sheet Metal Contractors and their hard-working and enthusiastic committees whose labors were largely instrumental in making this convention a wonderful success;

Resolution of thanks to the Mayor and officers of the city Government of Dayton, to the hotel, and to all others who contributed their share in entertaining and instructing the delegates.

All the officers were unanimously re-elected as follows:

President: ADOLPH E. MUNKEL, Columbus, Ohio;

Vice-President: JOHN D. GERKEN, Toledo, Ohio;

Secretary: WILLIAM J. KAISER, 123 E. Chestnut Street, Columbus, Ohio;

Treasurer: W. J. BIRMINGHAM, Columbus, Ohio.

George Thesmacher, M. B. Armstrong, and W. E. Lamneck, whose terms on the Board of Directors expired, were re-elected for two years. The hold over directors are: William Stechow; William E. Miller, and W. Henslee.

Thursday afternoon the delegates and their women folk went to the McCook's Field, the Government Aviation Experiment Station, where permission was granted by the Federal authorities for a visit through the factory.

Zanesville, Ohio, was chosen as the convention city for 1922.

### **Conventionalities.**

The Premier folks are all proud of their Premier warm air heaters and no one was happier than H. B. McGee, because he had so many opportunities to explain why the healthy, humid heat of the Premier warm air heater make it the "Premier" seller. Mr. McGee had three heaters exhibited and seemed to be busy all the time writing orders.

H. B. Armstrong of Thomas and Armstrong, London, Ohio, has a new pet—a metal garage model of which he displayed with other products in the large exhibit room his company used in conjunction with the W. E. Lamneck Company.

The Lamnecks were all there—Arthur P., William E. and G. V., and as usual were the center of attractions. Mrs. Arthur P. Lamneck attended her first con-

vention and her charming personality won the hearts of all.

Sidney Eisenberger, the sheet metal magnet of Dayton, is a "whiz"—a "wonder" was the unanimous opinion of all. Although Dayton committee members all worked mighty hard, "Sidney" topped them all. He has the faculty of being everywhere at the same time and he sure would take a prize handling convention crowds. We all must take off our hats to you, Sidney.

Geo. P. Werner of Galveston, Texas, and his wife were among those present. After the Pittsburgh convention they traveled through the east and are just on their way home. No need to say Mr. and Mrs. Werner were welcome.

Little Miss Josephine Munkel was one of the belles of the Old Barn Club ball, and has almost more admirers than her popular father, President A. E. Munkel.

As usual Geo. Thesmacher had plenty of opportunity to talk and talk he did. Keep it up, George, you certainly say things worth while every time you open your mouth.

Mrs. Frank Hoersting and her ladies' committee surely were on the job every minute.

No wonder Zanesville won out after the eloquent speech by National President A. P. Lamneck, but why did he harp so much on the fact that Zanesville has such a wonderful new bottling works?

Secretary Kaiser couldn't get rid of his job if he tried. Ohio knows a good man when it sees him.

Brother Jenkins of the American Rolling Mill Company at Middletown is a wonderful guide even though the party he led was not going through his own plant it made no difference to him.

The only time the crowd thinned out on the dance floor at the Old Barn Club was when the Armco films which were made under personal supervision of Mr. Jenkins were shown out in the open air also.

A host par excellence is John R. Patterson and his National Cash Register Co. Dayton is mighty proud of their J. R. Patterson and they can well afford to be.

Once again we must commend Dayton on its wonderful hospitality. Zanesville will have to go far to beat this year's convention. Why, even the weather man did his share and it was fairly cool most of the week.

The Dayton *Evening Herald* of Thursday, July 21st, gave prominent space at the top of a column on the second page in a special box to the representative of the AMERICAN ARTISAN AND HARDWARE RECORD. The article reads as follows: "Attending the Sheet Metal Contractors' convention here is Etta Cohn, the only woman at the convention in an official capacity. Miss Cohn is business manager of the AMERICAN ARTISAN AND HARDWARE RECORD, a trade journal published in Chicago, and in addition covers most of the state and national conventions in the middle west for her paper. She has been in the business ten years. The paper belongs to an estate, and all net profits go to charity, the only trade paper in the country which does this, Miss Cohn says. Miss Cohn joined the Salesmen's Auxiliary organized here Wednesday morning, and remarked afterward that now she belonged to six of them."



### Organize Strong Ohio Auxiliary.

It takes E. W. Norman to do things quickly and well. Accompanied by a good live delegation of Indiana boosters, E. W. Norman came to Dayton to organize a Salesmen's and Jobbers' Auxiliary to the Ohio Sheet Metal Contractors' Association, and within two minutes after Mr. Norman told the story of the success of Indiana and other states, the Ohio Salesmen's and Jobbers' Auxiliary was an established fact with forty-six members and the following officers:

President—Francis O. Carfer, of J. M. and L. A. Osborn Company, Cleveland, Ohio; 1st Vice-President. A. E. Watson, of the Berger Manufacturing Company, Canton, Ohio; 2nd Vice-President, John T. Lennon, of Lennox Furnace Company, Marshalltown, Iowa; Secretary, Fred F. Forster, of W. E. Lamneck Company, Columbus, Ohio; treasurer, C. F. Fitzwilson, of American Sheet and Tin Plate Company, Pittsburgh, Pennsylvania.

Plans already are being made to cooperate with the Ohio Sheet Metal Contractors in putting Ohio at the top of the State Association and though the youngest of the Salesmen's and Jobbers' Auxiliary, Ohio bids fair to be by no means "the weakest." Those who have pledged their support and membership are:

A. E. Meyers, of Perfection Furnace Pipe Company, Toledo, Ohio.

J. T. Lennon of St. Louis, with Lennox Furnace Company, Marshalltown, Iowa.

T. A. Price and Jack Beckley, of Genoa, Ohio, with Tiffin Art Metal Company, Tiffin, Ohio.

M. B. Armstrong, of Thomas and Armstrong Company, London, Ohio.

H. O. McIlwain, of Canton, with Success Heater and Manufacturing Company, Des Moines, Iowa.

E. H. Curtis, of W. H. Colebrook and Son, Syracuse, New York.

B. R. Petrie, of Michigan Stove Company, Detroit, Michigan.

C. H. Fitzwilson, of Cincinnati, with American Sheet and Tin Plate Company, Pittsburgh, Pennsylvania.

Harry Jones of Tanner and Company, Indianapolis, Indiana.

W. J. Zacharias of Brookville, Indiana, with Tanner and Company, Indianapolis, Indiana.

H. B. McKee of Indianapolis, with Premier Warm Air Heater Company, Dowagiac, Michigan.

Walter H. Ziegler of Muncie, Indiana, with F. O. Schoedinger, Columbus, Ohio.

R. L. Shugg of Cincinnati, with American Rolling Mill Company, Middletown, Ohio.

Sidney Eisenberger, of A. Ach and Sons, Dayton, Ohio.

George Auer, of Auer Register Company, Cleveland, Ohio.

A. S. Cain, of Richmond, Indiana, with Standard Metals Company, Indianapolis, Indiana.

A. E. Watson, of Cincinnati, Ohio.

H. C. Minshall, of Columbus, Ohio, with Steelcote Manufacturing Company, St. Louis, Missouri.

R. E. Taylor, of Columbus, Ohio, with Fox Furnace Company, Elyria, Ohio.

Edwards of Columbus, Ohio, with Vendor Slate Company, Bangor, Pennsylvania.

F. A. Nebal, of Cleveland, Ohio.

A. F. Fanning, of Auburn, Indiana, with Haynes-Langenberg Manufacturing Company, St. Louis, Missouri.

T. C. McGough, Wheeling, West Virginia.

W. S. Rulison of W. F. Robertson Iron and Steel Company, Cincinnati, Ohio.

L. D. Spotts of Eller Manufacturing Company, Canton, Ohio.

J. L. Stoneburner of Merchant and Evans Company, Philadelphia, Pennsylvania.

J. V. Walsh, of Follansbee Brothers Company, Pittsburgh, Pennsylvania.

C. E. Waller of Nellie, Ohio, with Wheeling Corrugating Company, Wheeling, West Virginia.

Etta Cohn and A. George Pedersen of AMERICAN ARTISAN AND HARDWARE RECORD, Chicago, Illinois.

John J. O'Brien, 1290 Rumona Avenue, Cleveland, Ohio.

Julius Meyer, 623 Negly Place, Dayton, Ohio, with Ohio Metal Manufacturing Company.

Berger Manufacturing Company, Canton, Ohio—four memberships.

R. C. Dean of Henry Furnace and Foundry Company, Cleveland, Ohio.

George W. Newey, of Zanesville, Ohio, with International Heater Company, Utica, New York.

H. S. Griffin, 734 Oak Street, Lima, Ohio, with Majestic Company, Hunting, Indiana.

G. W. Woods of *Sheet Metal Worker*, New York City.

### Personality Is the Biggest Force in Business.

The business manager of a large New York concern, who is an expert in hiring salesmen, rates applicants for positions almost entirely by their personality, the impression they make upon him. If this is unfavorable, no matter what his experience, his qualifications, or his testimonials, an applicant has no chance with him.

This practical business man believes with Walt Whitman that "A man is not all included between his hat and his boots;" that the atmosphere he radiates, the impression his personality conveys to that something in one which is not influenced by externals, is everything.

Every human being is surrounded with an invisible aura, or atmosphere, which makes a good or bad impression. Everyone feels it, but blind people are peculiarly sensitive to it.

Helen Keller instantly detects the character of those who come near her. She feels their personality. When she speaks before an audience she can approximate its size by the vibrations from the different personalities, which affect her according to the temperament and character of the individual.

When we go into the presence of strong, noble characters we feel drawn toward them by a great force of power which we cannot describe, but whose potency cannot be questioned. They compel our admiration. They stimulate and draw out all that is best in us.

The mysterious stranger in "The Third Floor Back," and the butler in "The Servant In the House," are not altogether creatures of imagination.

Everywhere we find people like those two stage characters who, in spite of their humble position and apparent poverty, radiate such an atmosphere of nobility, such a spirit of good fellowship, love and kindness, that they win all hearts.

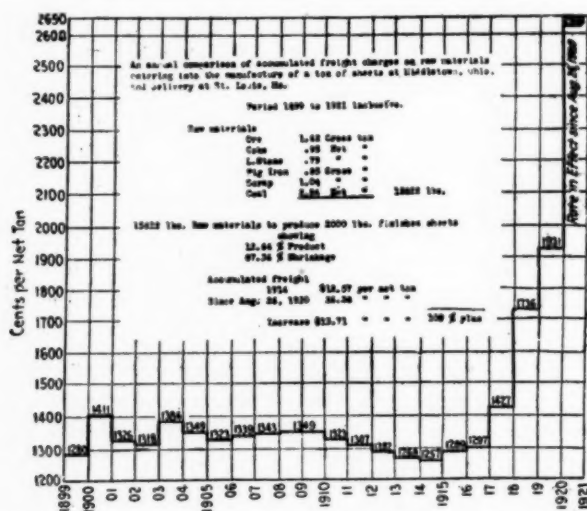
Not only do they win the love of the mean, sordid people among whom they are thrown, but their silent influence brings out the better side of them and transforms their lives.

Personality is the most important of all human assets. Our success, our popularity, our happiness, our power for good or evil, everything depends on it. Money is not the only riches. There is a possible wealth of personality, which would make money look ridiculous in comparison. No matter how poor a person may be he can cultivate a personality that will make him welcome where the mere money millionaire cannot enter.

The qualities which go to make up a charming personality, are kindness, magnanimity, cordiality, tolerance, sympathy, unselfishness, self-confidence and cheerfulness. These are the qualities that attract, that win our admiration and love. Any one who wills may develop them.

### Accumulated Freight Cost on Ton of Sheets Increases 109% in Six Years.

A chart which has recently been prepared by the American Rolling Milling Company, Middletown, Ohio, shows that in the making of one ton of sheets, such as are used for roofing, ovens, stove pipes, gutters, etc., 15,822 pounds of raw materials are used—ore, coke, lime stone, pig iron, scrap iron and coal—so that there is a "shrinkage of 87.36 per cent with only 12.64 per cent showing in the weight of the finished sheet.



Another important fact is shown by this chart. In 1899 the accumulated freight charges for ton of sheets at the mill were \$12.80, and the highest point reached until 1917 was \$14.27, with the lowest point of \$12.57 in 1914.

Today this figure is up to \$26.28, or more than twice as high as in 1914, the exact increase being 109 per cent.

When it is kept in mind that the freight charges alone for the materials entering into the manufacture of a ton of sheets amount to \$26.28, it is not to be wondered, that there is a strong sentiment for the reduction of freight rates.

### Notes and Queries.

#### Radiator Cores.

From Werner's Metal Shop, 224 Third Street, Tracy, Minnesota.

We would like to know where we can secure complete radiator cores with shell for all kinds of cars.

Ans.—The G. and O. Manufacturing Company, Replacement Department, New Haven, Connecticut; F. L. Curfman Manufacturing Company, Maryville, Missouri.

#### Paper Roofing.

From Guy Leforge, 1926 Arrow Avenue, Indianapolis, Indiana.

Kindly advise where I can purchase a good roofing paper.

Ans.—C. B. Hewitt and Brothers, Incorporated, 20 Ferry Street, New York City; York Haven Paper Company, Land Title Building, Philadelphia, Pennsylvania; Richardson Paper Company, Wyoming and Cooper Avenues, Lockland, Ohio; Union Paper and Twine Company, 125 St. Clair Avenue, Northwest, Cleveland, Ohio; John Lang Paper Company, 24th and Vine Streets, Philadelphia, Pennsylvania; Certain-teed Products Corporation, Boastman's Bank Building, St. Louis, Missouri.

#### Wire Cloth Eaves Trough Screens.

From Klauer Manufacturing Company, Dubuque, Iowa.

Will you kindly give us the name and address of some manufacturer of wire cloth eaves trough screens?

Ans.—Merchant and Evans Company, 327 North Sheldon Street, Chicago, Illinois; Milwaukee Corrugating Company, Milwaukee, Wisconsin; F. J. Meyers Manufacturing Company, Hamilton, Ohio; Andrews Wire and Iron Works, Rockford, Illinois.

#### Warm Air Heating Apparatus.

From Hoosier Iron Works, Kokomo, Indiana.

Please furnish us with the names of large jobbers of warm air heating apparatus.

Ans.—Carr Supply Company, 414 North Dearborn Street, Chicago, Illinois; Central Heating Supply Company, 1125 West 37th Street, Chicago, Illinois; Manny Heating Supply Company, 131 West Lake Street, Chicago, Illinois; Standard Furnace and Supply Company, Omaha, Nebraska.

#### Sheet Aluminum.

From Accurate Sheet Metal Works, 2453 Milwaukee Avenue, Chicago, Illinois.

Can you inform me where I can secure sheet aluminum?

Ans.—S. Birkenstein and Sons, 377 West Ontario Street, Chicago, Illinois; Metal Products Company, 100 South Jefferson Street, Chicago, Illinois.

#### Combination Hot Air and Hot Water Furnaces.

From Walter J. Kruse, 196 Watson Street, Aurora, Illinois.

Kindly let me know who manufactures combination hot air and hot water furnaces.

Ans.—Smith Gray Heater Company, 6143 Wentworth Avenue, Chicago, Illinois; Melbye Brothers Company, 1208 Webster Avenue, Chicago, Illinois.

#### Underwriters Lock.

From K. E. Aldrich, 747 Sixteenth Avenue, East Moline, Illinois.

Kindly advise where I can secure what is known to the trade as the Underwriters lock for fire doors.

Ans.—Richard-Wilcox Manufacturing Company, Aurora, Illinois.



# Illustrations of New Patents

**Watch This Page. Keep Yourself Informed Concerning Improved Devices Which May Save Labor in Your Shop or Add Another Source of Income to Your Retail Store.**

1,381,024. Punching and Cutting Pliers. Charles W. Shaul, Grinnell, Iowa. Filed August 5, 1920.

1,381,037. Can Opener. William Vogel, New York, N. Y. Filed August 17, 1920.

1,381,076. Ironing Board. Ray Burdette Palmer, Norwich, N. Y. Filed March 29, 1917.

1,381,128. Wrench. Thurston Matheny, The Plains, Ohio, assignor of one-half to O. F. Sarson and C. L. Orr. Filed March 2, 1920.

1,381,291. Firearm. Charles B. Dygert, Ilion, N. Y., assignor, by mesne assignments, to Remington Arms Company, Inc., New York, N. Y., a Corporation of Delaware. Filed January 10, 1920.

1,381,311. Clothesline Fastener. Alexander Johnson and William R. Anderson, Batavia, Ill. Filed December 6, 1920.

1,381,334. Knife Sharpener. Jacob Ranz, St. Louis, Mo. Filed January 26, 1920.

1,381,335. Gate and Hinge Lath Therefor. Cyrus Reed, Lebanon, Pa. Filed November 20, 1920.

1,381,339. Combination Utensil. Fred Rosen, Chicago, Ill. Filed November 21, 1918.

1,381,351. Clamp. Rolla C. Shaw and Floyd C. Skadan, Los Angeles, Calif.; said Skadan assignor to said Shaw. Filed January 14, 1920.

1,381,369. Stove Top. William Patrick Trainor, Bristol, Va. Filed October 7, 1920.

1,381,423. Safety Device for Clothes Wringers. Nathaniel Mintz and Charles C. Hiers, St. Paul, Minn. Filed August 7, 1920.

1,381,448. Firearm. John M. Browning, Ogden,

Utah. Original application filed April 27, 1920. Divided and this application Filed July 28, 1920.

1,381,457. Tool Holder. Maurice H. Derringer, Philadelphia, Pa. Filed May 1, 1920.

1,381,478. Hacksaw Blade. Austin M. Lawrence, Montague, Mass. Filed November 12, 1920.

1,381,527. Oven. Fred E. White, Gardner, Mass., assignor to Central Oil and Gas Stove Company, Gardner, Mass., a Corporation of Maine. Filed January 30, 1920.

1,381,529. Overshot Fishing Tool. George Whitmer, Brea, Calif. Filed January 2, 1920.

1,381,569. Lawn Weeder. William Linhoff, Pasadena, Calif. Filed March 16, 1920.

1,381,595. Water Heating Device for Oil Stoves. Alexander Louis Schaefer, Bolton, Ontario, Canada. Filed May 3, 1920.

1,381,655. Radiator Core. Fred M. Opitz, Racine, Wis. Filed November 10, 1919.

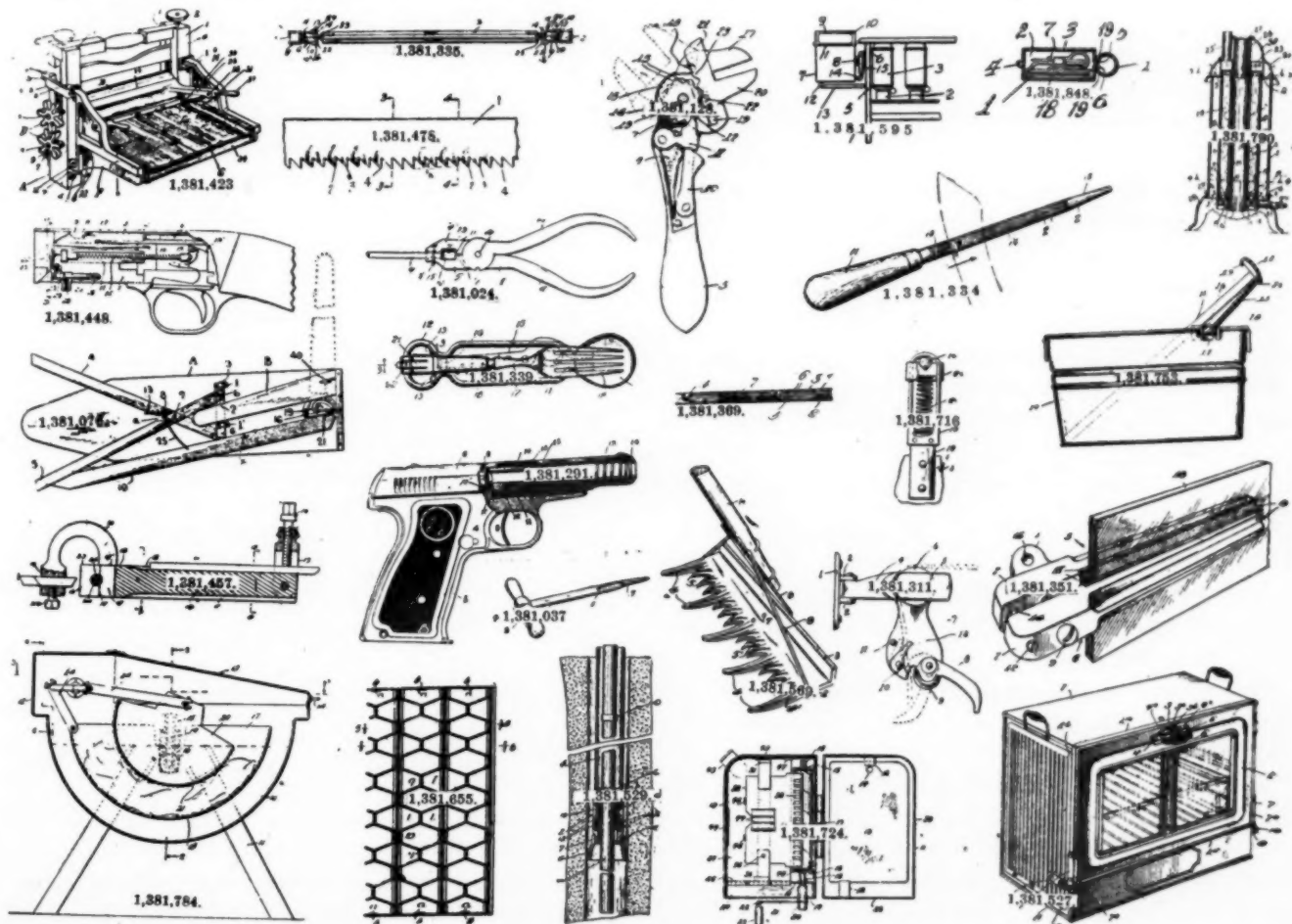
1,381,716. Washing Machine. Minnie M. Latham, Fort Worth, Texas, assignor of one-third to Ada Wood, Lynnville, Iowa. Filed June 10, 1919.

1,381,724. Safety Razor and Strop. James A. Maloney, Scranton, Pa. Filed May 18, 1920.

1,381,753. Washboard Anchor. Frank Joseph Schlager, Burlington, Iowa. Filed July 22, 1919.

1,381,784. Washing Machine. Clinton E. Beardsley, Rice Lake, Wis. Filed March 31, 1920.

1,381,790. Stove. Frank Hugo Brand, Elmwood Place, Ohio. Filed April 8, 1918.



# Weekly Report of the Markets

*General Conditions in the Steel Industry. Review of Prices and Tendencies in Sheet Metals, Pig Iron, etc.*

## **OPEN COMPETITION IS THE FEATURE OF STEEL MARKET.**

The steel industry now appears to have reached a plane of open competition in which the Chicago market has taken the lead. As a corollary of this aggressive fight for business and price cutting, the midweek reviews for the first time in a number of weeks hold an optimistic tone. The demand for steel from the railroads and the construction industry has shown a marked increase.

Since announcement of a second reduction in prices was made early this month considerable new business has developed. The result has been a scramble for orders, and price schedules and Pittsburgh "basing" have been abandoned. Independent steel mills in many instances are shading the schedule of prices established throughout the industry the week before, but the scarcity of orders is holding up any keen competition that might develop.

New business is coming in at the rate of only about 10 per cent of capacity, and the 20 per cent rate of production that the mills are averaging is due to specifying against standing contracts for the other half.

The mills of the leading interest are operating at not more than 25 per cent of capacity and those of the independents not much in excess of 15 per cent. This rate is practically the same as was maintained the past week.

An encouraging factor in the general business situation is that the railroads apparently can look forward to early settlement of their affairs with the government.

Plans for future railroad financing by the government are awaiting the decision of President Harding. Final details have not been completed and negotiations are continuing with the railroad representatives.

It is understood, however, that consideration is being given to a proposal that congress be asked to broaden the powers of the war finance corporation to handle both the funding operation of the railroads' debt of \$500,000,000 to the government and the actual making of advances on the railroads' claims against the government.

### **Steel.**

The railroads continue as the main prop to the steel market if the small amount of orders they are placing can be described as a prop.

On the other hand, German and Belgian mills are taking much business that would have otherwise found its way to this market.

The most recent loss was that of the locomotives for the Chinese Railway to Belgian interests.

Prior to this the German mills took orders for 150 locomotives and a larger number of oil tank cars from the Roumanian railways. In fact, it may be said safe-

ly that Belgian and German works are taking most of the railroad equipment orders current in the international market.

In the domestic market at the present time we note an inquiry for 150 box cars and 100 gondolas for the Alabama & Georgia, and the Toledo & Ohio is taking bids on the repair of 250 steel coal cars, while the Lehigh Valley has placed an order for 2,500 tons of steel for the repair of its Jersey City terminal.

The bridge across the Delaware to connect Philadelphia and Camden will require approximately 47,000 tons of steel.

As previously noted the Interstate Commerce Commission has authorized the Chicago Union Station Co. to issue \$6,000,000 of first mortgage bonds for the construction of a passenger station at Chicago. This will require a large tonnage of structural steel.

### **Copper.**

Some American copper mines here and in South America and Alaska continue to benefit by the closing down of the other properties and still produce copper and sell the current output.

In fact the production of the refineries is more than enough to fill the current demand and stocks of refined copper today are greater than at the beginning of the year thus preventing any material bettering of the statistical position of the red metal.

In reality the statistical position of copper has improved because the mine and smelter output is less than the refinery output, surplus stocks of blister copper being drawn upon to make up the difference.

Holdings of domestic producers abroad at the beginning of the year aggregated 71,000,000 pounds but have since been increased to about 100,000,000 pounds and this is aside from the tonnage financed through the Copper Export Association.

Ex-Senator W. A. Clark in a recent interview in Butte, Montana, stated that it will be at least six to eight months longer before readjustment proceeds far enough and before foreign credits are established which will admit of a resumption of mining activities.

He declared further that the copper surplus runs up to fully one billion pounds.

Out of close to 50 leading copper companies, only eight are now producing. The rest have closed mines and smelters, discharged all employees, except those necessary in the care and guarding of property, and are waiting the time when demand again shall have brought surplus stocks of the red metal down to normal.

Although surplus stocks of smelter copper have been drawn down, through shutting off of production and capacity operation at the refineries, refined metal is still in top-heavy supply.

Sales in the past three or four months have in no sense measured up to refined production, and since the



first of July even that small demand both for domestic and export account has disappeared.

A decline of  $\frac{1}{2}$  cent per pound occurred in the Chicago price of copper sheet, mill base.

### **Tin.**

The tin markets were very firm the first part of the week and some slight advances were recorded, but later on weakness developed and declines followed.

In the domestic market prices showed a net loss for the week of from three-eighths to a cent and a quarter, while in London the market showed a net loss of from 10s to 15s.

An increase in the shipments from China has also been a factor in the situation that has operated against the market.

### **Solder.**

Chicago prices of solder have declined \$1.00 per hundred pounds. Quotations now in effect are as follows: Warranted, 50-50, per hundred pounds, \$20.00; Commercial, 45-55 per hundred pounds, \$18.50; and Plumbers', per hundred pounds, \$17.50.

### **Zinc.**

Sellers advanced their asking price at St. Louis from 4.25 to 4.35 cents a pound for spot and July deliveries and from 4.30 to 4.35 cents for August but the settling price is still quoted at 4.20 cents.

The nominal New York price is unchanged at 4.55 cents.

Chicago prices of slab zinc declined .10 points, the present quotation being \$4.65 per hundred pounds.

Joplin advices state that fairly heavy purchases were made early last week on the basis of \$21 but later the base dropped to \$20 with buyers showing little interest in ore at that level.

Joplin shipments last week amounted to 6,179 tons as against 3,874 tons the week before, while shipments since Jan. 1, total 148,598 tons as compared with 332,219 during the corresponding period last year.

High grade sulphide ore is quoted at \$24.20. Premium 60 per cent zinc \$21 at \$22. Prime Western 60 per cent zinc \$20 at \$21 and fines and slimes nominal.

### **Lead.**

The domestic lead market was unchanged this week and New York deliveries were still quoted at 4.50 and St. Louis at 4.30 cents a pound as a settling price.

The leading interest continues to quote 4.40 cents for both New York and St. Louis.

American pig lead declined from \$4.80 to \$4.70 and bar lead from \$5.55 to \$5.45 per hundred pounds in Chicago.

Joplin advices state that an advance in lead ore prices to \$47.50 late last week brought out a larger tonnage which broke the market \$45 at the close. Joplin shipments last week amounted to 1,495 tons as against 667 the week before, while shipments since the first of the year aggregate 32,486 tons as compared with 50,959 tons during the corresponding period last year.

### **Sheets.**

There has been a decidedly noticeable improvement in demand for sheets in the past few days. This does not mean, of course, that there is now a heavy demand,

or even a demand that could be called an approach to "normal," whatever that may be.

Sheet demand from the automobile trade continues fair, as for two or three weeks past, being above what it was early in June though not up to what it was in the best part of the Spring.

It is a fact, however, that Ford and Dodge, perhaps some others, are running this month at much better rates than was expected.

The settlement between the Western Sheet & Tin Manufacturers' Association and the Amalgamated Association of Iron, Steel & Tin Workers was at last effected and a new wage scale for the year beginning July 12, 1921, adopted.

The reduction was not radical, the base for steel workers, which was 54 per cent above the old base and that of tin workers which was 65 per cent above the old base, were reduced 5 per cent.

Tinhouse employees, however, had their base reduced from 45 per cent to 33 per cent above the old base. Concessions in the base rate of advance bonus paid with advancing prices were also made. The combined concessions and reductions amounted to 10 per cent and more than 35,000 men are affected.

A reduction of 25 cents per hundred pounds went into effect this week in the Chicago market for galvanized sheets.

### **Tin Plate.**

The tin plate market shows no improvement as to volume of demand, and it is not expected to show any material improvement in the near future, for the season of the year is not promising in that respect. The principal canning crops, such as they are going to be, have doubtless been fairly well covered by stocks of cans and of tin plate and by recent specifications and orders at the mills.

Chicago warehouse interests have announced a reduction in prices amounting to 75 cents per box of 112 sheets of IC 14x24 and other sizes in proportion.

### **Old Metals.**

Wholesale quotations in the Chicago district which should be considered as nominal are as follows: Old steel axles, \$12.00 to \$12.50; old iron axles, \$17.00 to \$18.00; steel springs, \$11.00 to \$11.50; No. 1 wrought iron, \$9.00 to \$9.50; No. 1 cast, \$12.00 to \$12.50; all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 6 cents; light brass, 3.50 cents; lead, 2. cents; zinc, 1.50 cents; cast aluminum,  $8\frac{1}{2}$  cents.

### **Pig Iron.**

Sales of southern iron have been made for interior shipment on the basis of \$19.50 for No. 2 foundry, and possibly this price might be shaded on a round tonnage, but for local business, furnaces were selling almost entirely from stock at \$20 base. Virginia iron also is lower to sell but there is scarcely enough business to establish a price.

It is claimed that pig iron from stock has been sold by eastern furnaces for delivery in the New York district as low as \$22.50, but the grade of iron sold at this price is not stated. The market, however, is very unsettled and the prices are irregular. In eastern Ohio, foundry has been sold at \$20 base.

# Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS	HARDWARE	Scratch.	BEVELS, TEE.
<b>FIG IRON.</b>	<b>ADZES.</b>	No. 18, socket Handled .....per doz. \$ 2 50	Stanley's Rosewood handle, new list .....Nets
Northern Fdy. No. 2.....\$19 70-20 20	Carpenters'.	No. 344 Goodell- Pratt, list less.....25-40%	Stanley iron handle.....Nets
Southern Fdy. No. 2.....26 67	Plumbs.....Per doz. \$29 00	No. 7 Stanley.....per doz. \$ 2 25	
Lake Sup. Charcoal.....36 00	<b>COOPERS'.</b>		<b>BINDING CLOTH.</b>
Malleable .....\$19 70-20 70	Barton's .....Net		Zincd .....55%
	White's .....Net		Brass .....40%
	Railroad.		Brass, plated.....40%
<b>FIRST QUALITY BRIGHT TIN PLATES.</b>	Plumbs.....Per doz. \$30 00	<b>AXES.</b>	
		First Quality, Single Bitted, 3 to 4 lb., per doz. 16 50	<b>BITS.</b>
		First Quality Double Bitted .....per doz. 22 50	Auger.
		<b>BROAD.</b>	Jennings Pattern.....Net
		Plumbs. Can. Pat., 6-lb. 65 00	Ford Car.....List plus 5%
		Single Bitted (without handles).	Ford's Ship....." " 5%
		Plumbs, 4 1/2-lb.....19 50	Irwin .....35%
		Double Bitted (without handles).	Russell Jennings.....plus 10%
		Plumbs, 4 1/2-lb.....23 50	Clark's Expansive.....33 1/2%
			Steer's " Small list, \$23 00..5%
			" " Large " \$26 00..5%
			Irwin Car.....35%
			Ford's Ship Auger pattern Car .....List plus 5%
		<b>BAGS, PAPER, NAIL.</b>	Center .....10%
		Pounds .. 10 16 20 25	
		Per 1000..\$5 00 6 50 7 50 9 00	<b>Countersink.</b>
			No. 18 Wheeler's.....per doz. \$2 35
			No. 20 " " " " \$ 00
			American Snailhead " " 1 75
			" Rose " " 2 00
			" Flat " " 1 40
			Mahew's Flat " " 1 00
			" Snail " " 1 00
			<b>Dowel.</b>
			Russel Jennings.....plus 20%
			<b>Gimlet.</b>
			Standard Double Cut Gross \$5 40
			Nail Metal Single Cut .....Gross \$4 00—\$5 00
			<b>Hammer.</b>
			Standard Square.....Dox. \$2 50
			American Octagon... " 1 50
			<b>Screw Driver.</b>
			No. 1 Common.....20
			No. 26 Stanley.....75
			<b>BLADES, SAW.</b>
			<b>Wood.</b>
			Dixton 30-in.
			Nos. ....6 66 26
			\$9 45 \$10 05 \$9 45
			<b>BLOCKS.</b>
			Wooden .....20%
			Patent .....20%
			<b>BOARDS.</b>
			<b>Stove.</b>
			Per doz.
			24x24 .....\$12 05
			26x26 .....16 05
			28x28 .....18 35
			30x30 .....21 30
			32x32 .....25 50
			36x36 .....30 50
			<b>Wash.</b>
			No. 760, Banner Globe (single) .....per doz. \$5 35
			No. 652, Banner Globe (single) .....per doz. 6 75
			No. 801, Brass King, per doz. 8 25
			No. 860, Single—Plain Pump .....6 25
			<b>BOLTS.</b>
			Carriage, Machine, etc.
			Carriage, cut thread, 1/2x6 and sizes smaller and shorter .....50 & 5%
			Carriage sizes larger and longer than 1/2x6.....50%
			Machine, 1/4x4 and sizes smaller and shorter.....60%
			Machine, sizes larger and longer than 1/4x4.....50 & 10%
			Stove .....70%
			Tire .....50 & 10%
			<b>Mortise, Door.</b>
			Gem, iron.....5%
			Gem, bronze plated.....5%



<b>Barrel.</b> Cast .....Net Wrought ..... Wrought, bronzed.....  <b>Flush.</b> Wrought .....  <b>Spring.</b> Wrought ..... Wrought, heavy.....  <b>Square.</b> Wrought .....  <b>BOXES.</b> Mail. No.... 2 4 10 Per doz...\$18 00 \$23 00 29 00 Mitre. Stanley's.....Net Prices Stearns, No. 2...per doz. \$48 00  <b>BRACES, RATCHET.</b> Goodell-Pratt No. 408 .....\$4 60 " " No. 410 ..... 4 80 " " No. 412 ..... 5 00 V. & B. No. 444 8 in..... 4 63 V. & B. No. 333 8 in..... 4 30 V. & B. No. 222 8 in..... 4 00 V. & B. No. 111 8 in..... 3 50 V. & B. No. 11 8 in..... 3 05  <b>BURRS, RIVETING.</b> Copper Burrs only...25% above list Tinners' Iron Burrs only...30%  <b>BUTTS.</b> Cast Iron .....7½% Wrought Bronze, No. 175 AC 2½ .....\$1 75 Steel, Bright, Narrow 15-7½-5% Steel, Japanned, Narrow .....List+65%  <b>CALIPERS.</b> Double .....Net Inside and Outside..... Wing .....  <b>CALKS.</b> Too. Blunt and medium, 1 prong, per 100 lbs.....\$6 20 Sharp, 1 prong, per 100 lbs. 6 70  <b>CANS.</b> Milk. Ohio. Gals..... 5 8 10 Each ....\$3 65 \$4 45 \$4 70 Gem. Gals..... 5 8 10 Each ....\$3 35 \$4 95 \$5 20 Jersey or Holstein. Gals..... 5 8 10 Each ....\$4 15 \$5 60 \$5 90  <b>CAN OPENERS.</b> See Openers.  <b>CAPS, GUN.</b> See Ammunition.  <b>CARRIERS.</b> Hay. Diamond, Regular...each, Nets Diamond, Sling.....  <b>CARTRIDGES.</b> See Ammunition.  <b>CASTERS.</b> Standard—Ball Bearing, ..... 50&10% ..... 40% Common Plate. Brass Wheel .....15% Iron and porcelain wheels, new list.....50% Philadelphia Plate, new list .....50% Martin's .....40%  <b>CATCHERS, GRASS.</b> No. 160S, per doz.....\$12 25 No. 165S, " ..... 14 01	<b>CEMENT, FURNACE.</b> American Seal, 5 lb. cans, net \$ 45 " " 25 lb. cans, " 1 87  Asbestos, 5 lb. cans.... " 45 Pecora, 5 lb. cans.... " 45 " 10 lb. cans.... " 90 " 25 lb. cans.... " 1 87  <b>CHAINS.</b> Breast Chains, With Slide.....doz. pairs, 5 50 Without Slide..... " 5 06 Doubleblack..... " 9 35 With Covert Snaps " 6 38  Picture Chains. Light Brass, 3 ft. per doz. 1 25 Heavy Brass, 3 ft. " 1 75  Sash Chain. (Morton's) Steel, per 100 ft. 0 ..... \$2 50 1 ..... 2 10 2 ..... 3 60  Champion Metal, OR ..... 5 40 2R ..... 5 60 1R ..... 7 75  Champion Metal.—Extra Heavy. 1H ..... \$9 50  Cable Sash Chains. Steel.....List Net Plus 15%  <b>CHALK, CARPENTERS'.</b> Blue .....per gro. \$1 40 Red ..... 1 40 White ..... 1 25 Common White School " 25c Crayon " 25c  <b>CHIMNEY TOPS.</b> In bags .....per bag \$1 70  <b>CHECKS, DOOR</b> Corbin .....Net List Russwin .....20%  <b>CHISELS.</b> Cold. Good quality, ¾ in., each \$0 44 " ¼ in., " 0 28  Diamond Point. V. & B. No. 15, ¼ in..... 0 23 V. & B. No. 15, ½ in..... 0 48  <b>FIRMER BEVELLED.</b> Berg's (Swedish). ¾-inch, per doz.....\$ 4 45 1- " " " 7 15 1½- " " " 10 15 2- " " " 17 15 2½- " " " 26 95  Round Nose. V. & B. No. 65, ¼ in..... 0 33 V. & B. No. 65, ½ in..... 0 44  <b>SOCKET FIRMER.</b> Berg's (Swedish). ¾-inch, per doz.....\$11 95 1- " " " 16 75 1½- " " " 23 95 2- " " " 35 95  Cape. V. & B. No. 50, ¾ in..... 0 39 V. & B. No. 50, 1 in..... 0 64  <b>CHUCKS, DRILL.</b> Goodell's, for Goodell's Screw Drivers .....List less 35-40% Yankee, for Yankee Screw Drivers .....\$6 00  <b>CHURNS.</b> Anti-Bent Wood, Gal. .... 5 7 10 Each .....\$3 00 4 60 4 85 Belle, Barrel .....65&7½% Common Dash, Gal. .... 5 7 Per doz. ....\$17 00 19 00  <b>CLAMPS.</b> Adjustable. Martin's .....30% No. 63, Screw .....20%  Cabinet. Screw .....20%  Carpenters'. Steel Bar..List price plus 25%  Carriage Makers'. 2½" .....per doz. \$ 7 00 5" ..... " 14 00 8" ..... " 28 00 12" ..... " 46 00	<b>QUILT FRAME.</b> No. 30 Ball and Socket, 2¼" head...per gross \$12 00 No. 50 Ball and Socket, ¾" head...per gross 14 50  <b>Hose.</b> Sherman's, brass, ¾", per doz. ....\$0 43 Double, brass ¾", per doz. 1 20  <b>Saw Filers.</b> Wentworth's, No. 1, \$12 50; No. 2, \$18 25; No. 3, \$16 25.  <b>CLAWS, TACK.</b> Wood hdl. No. 10..per doz. \$0 95 Forged steel, wood hdl. " 1 75 Solid steel ..... " 2 40 Giant ..... " 50  <b>CLEANERS.</b> Drain. Iwan's Adjustable.....25% Iwan's Stationary.....30%  Pot. Wire .....per doz. \$0 75  <b>CLEAVERS.</b> Family. Beatty's, inch..... 7 8 9 10 Per doz. \$27 00 29 00 33 00 36 00  <b>CLEAVISES.</b> Malleable .....10c lb.  <b>CLIPPERS.</b> Bolt .....\$2 25 & 6 00  <b>CLIPS.</b> Axle .....65 & 5%  Damper. Standard .....per doz. 70c Troy ..... " 38c Hume ..... " 50c  <b>COLLARS, STOVE PIPE.</b> Lacquered. Inches 5 6 7 Fancy pattern, per doz.... 80c 85c \$1 15  <b>COMPASSES.</b> Carpenters' .....15%  <b>COPPERS—Soldering.</b> Pointed Roofing. 3 lb. and heavier...per lb. 37c 3 lb..... " 38c 2½ lb..... " 37c 1½ lb..... " 40c 1 lb..... " 43c  <b>CORD.</b> Picture. White Wire .....60 & 5%  Sash. Sampson Spot, No. 7, per doz. ....\$10 25  <b>COTTERS, SPRING.</b> All sizes .....37½%  <b>COUPLINGS, HOSE.</b> Brass .....per doz. \$2 25  <b>CRADLES, GRAIN.</b> Morgan's Grapevine per doz. \$45 00  <b>CUTTERS.</b> Glass. Woodward .....40%  Meat. Enterprise—Nos. 5 10 12 Each.... \$2 50 \$4 25 \$3 75 " Nos. 22 32 " 6 50 8 50  Pipe. Saunders, No. 1 2 3 Each ....\$1 85 2 75 6 75  Slaw and Kraut. Per doz. 4-knife Kraut.....\$20 00-55 00 3-knife Kraut, 8x27 in. .... 13 00-18 00 1-knife Slaw..... 2 50 2-knife Slaw..... 3 00  Washer ..... 11 00  <b>DAMPERS, STOVE PIPE .</b> Diamond. All sizes .....50%	<b>DIGGERS.</b> Post Hole. Eureka.....per doz. \$14 00 Iwan's Split Handle (Eu- reka) 4-ft. Handle...per doz. 15 00 7-ft. " ...per doz. 20 00 Iwan's Hercules pattern per doz. .... 18 00 Dividers, Wing .....25%  <b>DRILLS.</b> Blacksmiths' Twist (New List) .....40%  <b>Breast.</b> Millers Falls No. 12, each \$46 00 " "112, " 26 00  <b>Hand.</b> Goodell's Automatic. Nos. 01 02 Per doz. 12 00 14 40 Goodell's Single Gear, per doz. .... 15 75 Goodell-Pratt No. 4¾, per doz. list, less.....30% Goodell-Pratt No. 379, per doz. list, less.....30%  <b>Reciprocating.</b> Goodell's..... per doz. 25 00  <b>DRIVERS, SCREW.</b> Standard .....Nets Lock Ferrule ..... " Clark's Interchangeable..... " Goodell's Spiral ..... " Yankee Ratchet ..... " " Spiral ..... "  <b>EAVES TROUGH.</b> 70 & 10% off Standard List.  <b>ELBOWS—Stove Pipe.</b> 1-piece Corrugated, Uniform. Doz. 5-inch .....\$1 50 6-inch ..... 1 60 7-inch ..... 2 10  Uniform, Collar Adjustable. Doz. 5-inch .....\$1 90 6-inch ..... 2 00 7-inch ..... 2 50  <b>ELBOWS—Conductor Pipe.</b> Galvanized Steel, Tin and Terne, Round Corrugated. Size Doz. 2-inch .....60% 3-inch .....60% 4-inch .....60% 5-inch .....60% 6-inch .....60%  <b>ENAMEL, STOVE.</b> Iron, Black. Per Gross Peerless Gloss, ¼ pt.....\$18 20 " ½ pt..... 21 00 Per doz. " ¼ gal.....\$12 00 " 1 gal.... 21 00  Aluminum Per Gross Peerless, ¼ pt..... \$42 60 " ½ pt..... 61 20  <b>EMERY.</b> Domestic, lb. ....11½c  <b>FASTENERS, STORM SASH.</b> Shroeder's .....per doz. \$1 50 Sensible ..... " 3 00  <b>FILES AND RASPS.</b> Simonds' .....50% Heller's (American) .....50&10% American .....50-10-5% Arcade .....50-14-4% Black Diamond .....40-10-3½% Eagle .....50-14-4% Great Western .....50-10-8% Kearney & Foot.....50-10-5% McClellan .....50-10-5% Nicholson .....40-10-2½% J. Barton Smith.....50-10-5% X F .....Net List  <b>FIRE POTS.</b>
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<b>LINING, STOVE.</b> Bricks .....per crate 42c	<b>NAIL SETS.</b> See Sets.	<b>PARERS.</b> Apple. Goodell's .....per doz. \$10 80 Turntable ..... " 11 40 White Mountain " 8 40 Reading No. 78 " 11 40	<b>Lineman's Side Cutting.</b> Berg's (Swedish). In. 6 7 8 Blk. Pol. Face, doz. ....\$10 70 20 00 23 25
<b>LOCKS</b> Barn Door. No. 60 Stearns...per doz. \$12 00 No. 80 " " " 24 00	<b>NETTING, POULTRY.</b> Galvanized before weaving...50% Galvanized after weaving...40%	<b>POTATO.</b> Goodell's Saratoga, 10% In. doz. .... 6 50 Goodell's Saratoga, 5 in., doz. .... 5 50	<b>Long Nose Side Cutting.</b> Berg's (Swedish) In. 5 6 Blk. Pol. Face, doz. \$12 25 15 20
<b>MACHINES.</b> Riveting. Stearns No. 1...per doz. \$16 00 Tenoning. No. 50 Peace's Spoke, each \$16 00	<b>NIPPERS.</b> End Cutting. Berg's (Swedish) In. 5 6 Per dozen.....\$12 60 15 20 End and Diagonal Cutting. Berg's (Swedish) In. 5 6 Per dozen .....\$10 05 13 00	<b>PICKS.</b> Adze Eye Ore.....22 1/2% Drifting and Poll Picks.....22 1/2% Plumbs, Railroad .....22 1/2% Surface .....22 1/2%	<b>Flat and Round Nose.</b> Berg's (Swedish) Flat, In. 4 6 8 Blk. Pol. Face, Dox. ....\$8 90 12 35 19 65 Berg's (Swedish) Round, In. 4 6 8 Blk. Pol. Face Dox. .... \$11 15 16 30 23 35
<b>MAIL BOXES.</b> See Boxes.	<b>HOOF.</b> Heller's .....40&10% V. & B., No. 52, each....\$3 25	<b>PINCERS.</b> Carpenters', cast steel, No. .. 6 8 10 12 Each \$0 56 \$0 72 \$0 92 \$1 02 Blacksmiths', No. 10.....\$ 90 Heller's .....List plus 10%	<b>POINTERS, SPOKE.</b> Stearns' No. 1...per doz. \$10 00 " No. 2.... " 12 00
<b>MALLETS.</b> Carpenters'. Fibre Head, No. 2 per doz. \$16 50 " No. 3 " 19 50 " No. 4 " 23 50 Round Hickory ..... per doz. \$3 00—5 00 Round Lig- numvitae " 6 25—10 50 Square Hickory " 3 50—5 50 Square Lig- numvitae " 3 00—12 00	<b>NOZZLES.</b> Hose. Magic .....per doz. \$9 50 Diamond ..... " 5 75 <b>NUTS, HOT PRESSED.</b> Square Tapped. \$2.41 off per 100 lbs. Hexagon Tapped. \$2.41 off per 100 lbs.	<b>PINS.</b> Clothes Common, per box of 5 gro. \$0 95 Picket. Fluter, 15-in....per doz. \$1 10 Fluted, 21-in.... " 1 60 Spiral ..... " 1 90	<b>POKERS, STOVE.</b> Wrt Steel, str't or bent, ..... per doz. \$0 75 Nickel Plated, coil han'l's " 1 10
<b>MATS.</b> Door. National Rigid .....5&10&5% Acme Steel Flexible.....50% Stove. No. 2.....per gro. Nets No. 1..... " " No. 1 Asbestos Toasters or wire-covered Stove Mats, with handle....per doz. 1 10 No. 2 Asbestos Toasters, with ring .....per doz. 60	<b>OILERS.</b> Chase Pattern. Brass and Copper.....10% Zinc .....20% Railroad. Coppered .....32 1/2% Steel. Copper Plated .....50-10-5%	<b>PIPE.</b> Conductor. Plain Round and Round Corru- gated. 29 Gauge .....55% 28 " .....45% 26 " .....35% 24 " .....10% Square Corrugated A and B and Octagon. 29 Gauge .....40% 28 " .....40% 26 " .....30% 24 " .....10% Galvanized Toncan Metal, Genu- ine O. H. Iron, Lyonore Metal, Charcoal Iron and Keystone C. B. Plain Round and Round Corru- gated. 29 Gauge .....40% 28 " .....35% 26 " .....30% 24 " .....10% Square Corrugated A and B Polygon and Octagon. 29 Gauge .....40% 28 " .....30% 26 " .....30% 24 " .....10% 14 and 16-oz. Copper, all de- signs .....10%	<b>POLISH.</b> Metal. Wizard, 6-oz. per gross \$21 00 " 1/2-pt. " 24 00 " 1/2-gal. " 13 00 " 1-gal. " 21 00
<b>MATTOCKS.</b> Plumbs ..... 25% <b>MAULS.</b> Wood Choppers'. Lake Superior & Oregon pat. ....40&5% <b>MEASURES.</b> Galvanized, doz .....Nets Japanned, doz. ....Nets	<b>OPENERS.</b> Can. Delmonico .....per doz. \$1 30 Never Slip..... " 65 Crate. V. & B.....per doz. \$7 25-11 00	<b>PORTICO ELBOWS.</b> Galvanized and Terne Steel. 1 -inch .....35% 1 1/4 -inch .....35% 1 1/2 -inch .....35% 2 -inch .....35% Discounts on Round apply on sizes 2-inch to 6-inch inclusive. Freight allowed on 15 dozen or more, to all points where freight rate does not exceed \$1.00 per 100 lbs. Less than 15 dozen F. O. B. Factory. Terms 30 days net, 2% ten days. Standard Gauge Conductor Pipe, plain or corrugated. Not Nested .....60 & 10% Nested solid .....60 & 15%	<b>PRESSES, FRUIT AND JELLY</b> Enterprise Manufacturing Co. 25%
<b>MATTOCKS.</b> Plumbs ..... 25% <b>MAULS.</b> Wood Choppers'. Lake Superior & Oregon pat. ....40&5% <b>MEASURES.</b> Galvanized, doz .....Nets Japanned, doz. ....Nets	<b>OUTFITS, COBBLING.</b> Combination .....per doz. \$16 00 Economy ..... " 8 50 Family ..... " 14 50	<b>PAIRS.</b> Cream. 14-qt. without gauge, .....per doz. \$9 50 18-qt. without gauge, .....per doz. 11 00 20-qt. without gauge, .....per doz. 11 75 Sap. 10-qt., IC Tin....per doz. \$4 00 12 " " " " 5 50	<b>PRUNERS.</b> Daston's Pole....per doz. \$18 00 Water's Improved...per doz. 60%
<b>MILLS, COFFEE.</b> Arcade .....40-10% <b>MITRE BOXES.</b> See Boxes.	<b>PAILS.</b> Cream. 14-qt. without gauge, .....per doz. \$9 50 18-qt. without gauge, .....per doz. 11 00 20-qt. without gauge, .....per doz. 11 75 Sap. 10-qt., IC Tin....per doz. \$4 00 12 " " " " 5 50	<b>PULLERS.</b> Cork. Daisy .....each \$3 10 Phoenix ..... " 1 40 Quick and Easy.... " 2 70	<b>PULLERS.</b> Cork. Daisy .....each \$3 10 Phoenix ..... " 1 40 Quick and Easy.... " 2 70
<b>MILLS, COFFEE.</b> Arcade .....40-10% <b>MITRE BOXES.</b> See Boxes.	<b>PAILS.</b> Cream. 14-qt. without gauge, .....per doz. \$9 50 18-qt. without gauge, .....per doz. 11 00 20-qt. without gauge, .....per doz. 11 75 Sap. 10-qt., IC Tin....per doz. \$4 00 12 " " " " 5 50	<b>PULLERS.</b> Cork. Daisy .....each \$3 10 Phoenix ..... " 1 40 Quick and Easy.... " 2 70	<b>PULLERS.</b> Cork. Daisy .....each \$3 10 Phoenix ..... " 1 40 Quick and Easy.... " 2 70
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<b>MILLS, COFFEE.</b> Arcade .....40-10% <b>MITRE BOXES.</b> See Boxes.	<b>PAILS.</b> Cream. 14-qt. without gauge, .....per doz. \$9 50 18-qt. without gauge, .....per doz. 11 00 20-qt. without gauge, .....per doz. 11 75 Sap. 10-qt., IC Tin....per doz. \$4 00 12 " " " " 5 50	<b>PULLERS.</b> Cork. Daisy .....each \$3 10 Phoenix ..... " 1 40 Quick and Easy.... " 2 70	<b>PULLERS.</b> Cork. Daisy .....each \$3 10 Phoenix ..... " 1 40 Quick and Easy.... " 2 70
<b>MILLS, COFFEE.</b> Arcade .....40-10% <b>MITRE BOXES.</b> See Boxes.	<b>PAILS.</b> Cream. 14-qt. without gauge, .....per doz. \$9 50 18-qt. without gauge, .....per doz. 11 00 20-qt. without gauge, .....per doz. 11 75 Sap. 10-qt., IC Tin....per doz. \$4 00 12 " " " " 5 50	<b>PULLERS.</b> Cork. Daisy .....each \$3 10 Phoenix ..... " 1 40 Quick and Easy.... " 2 70	<b>PULLERS.</b> Cork. Daisy .....each \$3 10 Phoenix ..... " 1 40 Quick and Easy.... " 2 70

<b>PUTTY.</b> Strictly pure...per 100 lbs. \$6 00	<b>SAWS.</b> Band. Disston's 2 in. to 18 in.... 25, 10 & 5% Disston's 1/4-in. to 1 1/4-in.... 25 & 10%	<b>SETS.</b> Nail. Square head....per doz. 1 84 Cup point, knurled " 1 78	<b>SPRINKLERS, LAWN.</b> Stearn's No. 1....per doz. \$11 50
<b>RAIL.</b> Barn Door. Matchless, 1-in..... 5c Matchless, 1 1/4-in..... 7c Storm King..... 5c	<b>Butchers'.</b> Disston's No. 2, 14-in.... 18 20 " No. 2, 18-in.... 19 50 " No. 2, 22-in.... 20 85 " No. 7, 16-in.... 20 00 " No. 7, 20-in.... 21 35 " No. 7, 24-in.... 23 35 " No. 7, 28-in.... 26 00	<b>Rivet.</b> Farmers'.....per doz. 2 50 Tinnars' 3-4..... 5 75 " 00-0..... 8 75	<b>SQUARES.</b> Steel and Iron.....Net (Add for bluing, \$3.00 per doz. net) Mitre.....Net Try.....Net Try and Bevel.....Net Try and Miter.....Net
<b>Sliding Door.</b> Bronzed wrought iron, .....per ft. 8 1/2c	<b>Compass.</b> Disston's No. 20 Jackson. 4 00 " No. 40 Sampson 2 50 " No. 2 & 77, 10-in. 6 05 " No. 9, 10 in.... 6 80	<b>Saw.</b> Atken's Pattern...per doz. \$6 50 Disston's Monarch No. 2..... 9 90 Disston's Monarch No. 12..... 13 20	Fox's.....per doz. \$4 00 Winterbottom's.....10%
<b>Garden.</b> Steel, Bow, 12-in. Teeth \$3 50 Steel, Bow, 14-inch " 3 25 Malleable Iron, 12-in. " 4 75 Malleable Iron, 14-in. " 5 00	<b>Cross-Cut.</b> Disston's No. 289, 4-ft.... 3 15 " No. 289, 6-ft.... 6 15 " No. 289, 8-ft.... 10 65	Leach's..... 3 15 Nash's Hand..... 4 20 Nash's X-cut..... 1 20 Stillman's Lever... 2 50 Stillman's X-cut... 7 50 Whitening Pattern, No. 21..... Eccentric Anvil, Hand No. 395, N. P. Morrill Pat- tern..... 14 50	<b>SQUEEZERS, LEMON.</b> Common Wood....per doz. \$0 70 Porcelain Lined, Wood " 1 35 Boss, malleable iron " 1 20 Iron frame pora " 1 90 Iron frame, glass " 2 35 Little Giant, tin'd " 4 00 Iron..... 3 40 Drum, japanned... 4 50 Drum, nickel plated. " 4 50
<b>May.</b> Wood, 10 Teeth.....\$4 00	<b>Flooring.</b> Disston's D19, 16-in.... 24 50 " D19, 20-in.... 31 00	<b>SHARPENERS, SKATE.</b> Diamond.....per doz. \$1 60 Perfect..... 1 20	<b>STAPLES.</b> Blind. Barbed.....per lb. 21 @ 23c
<b>Lawn.</b> 20 Teeth.....per doz. 5 50	<b>Hand and Rip.</b> Disston's No. 7, 20-in.... 19 30 " No. 7, 32-in.... 35 40 " No. 8, 16-in.... 17 55 " No. 8, 20-in.... 20 75 " No. 8, 24-in.... 24 40 " No. 8, 28-in.... 29 50 " No. 8, 30-in.... 32 95	<b>SHEARS.</b> Nickel Plated, Straight, 6" \$12 90 " " " 7" 14 85 " " " 8" 16 80 Japanned, Straight.... 6" 11 00 " " " 7" 12 40 " " " 8" 13 80	Butter, Tub..... " 16 @ 19c
<b>RAZORS—SAFETY.</b> Gillette.....per doz. \$45 00 Auto Strip..... 45 00 Gem..... 3 40 Gem (3 doz. lots) " 3 00 Ever Ready..... 3 40 Ever Ready (3 doz. lots) " 3 00	<b>Keystone</b> .....New Nets	<b>SHEAVES, SLIDING DOOR.</b> Common. Inches..... 3 4 5 Per set.....\$1 40 1 75 2 40	Netting. Galvanized.....per 100 lbs. 6 50
<b>RAZOR STROPS.</b> Star (Honing).....50%	<b>Keyhole.</b> Disston's No. 5, complete 3 35 " No. 10, complete 3 70 " No. 95, complete 5 75	Hatfield's. Per set \$1 80 2 10 2 75 25	Wrought. Wrought Staples, Hasps and Staples, Hasps, Hooks and Staples, and Hooks and Extra heavy.....50 & 10%
<b>REGISTER.</b> Cast Iron.....30% Steel and Semi-Steel.....30% Baseboard.....30% Adjustable Ceiling Ventilators 30%	<b>Miter Box.</b> Disston's No. 4, 4x20-in.... 36 15 " No. 4, 5x22-in.... 43 25 " No. 4, 6x22-in.... 47 20	<b>SHELLERS, CORN.</b> Union.....per doz. \$6 75	<b>STEELYARD.</b> Discount 25%.
<b>REGISTER FACES.</b> Japanned, Bronzed and Plated. 4x6 to 14x14.....30% 14x14 to 35x43.....50%	<b>Patternmakers'.</b> Disston's 7 1/4-in..... 12 05	<b>SHIELDS.</b> Expansion Bolt Shields.....60%	<b>STONES.</b> Hindostan.....per lb. New Nets More Grit..... Washita.....
<b>REVOLVERS.</b> Iver Johnson Safety Automatic Hammer.....Net Hammerless..... I. J. Model 199.....	<b>Pruning.</b> Disston's No. 20.....\$18 75	<b>SHINGLES.</b> Per Square Zinc (Illinois).....\$15 00	Emery. No. 126.....per doz. New Nets
<b>RINGS AND RINGERS.</b> Bull. Copper.....3 1/4-in. 3-in. Per doz.....\$3 40 \$2 65 Fies's Improved Self- Piercing copper, .....doz. 3 40 Steel, per doz..... 1 50 1 80	<b>Stairbuilders'.</b> Disston's 6-in. .... 7 90	<b>SHOES.</b> Conductor.....60%	Oil—Mounted. Arkansas Hard No. 7.....per doz. New Nets Arkansas Soft..... Washito No 717. "
<b>Mag.</b> Blair's Rings....per doz. \$ 75 Blair's Ringers... " 1 00 Brown's Ringers.. " 72 Brown's Ringers.. " 1 00 HUI's Ringers.... " 1 00 Hill's Rings, boxes " 72 Major Rings..... " 60 Perfect Ringers " 1 50 Wolverine Rings " 1 10 Wolverine Ringers " 1 10	<b>Wood.</b> Disston's No. 111, 30-in.... 22 20 " No. 111, 32-in.... 22 75 " No. 47, 30-in.... 20 25 " No. 47, 32-in.... 20 80	<b>SHOT—See Ammunition.</b> <b>SHOVELS AND SPADES.</b> Coal. Hubbard's No. A B C D 1 \$16 00 15 10 14 45 13 70 2 16 35 15 60 14 85 14 10 3 16 75 16 00 16 25 14 45 4 17 10 16 35 16 60 14 85	Oil—Unmounted. Arkansas Hard per lb. New Nets Arkansas Soft.. " " Lily White.... " " Queer Creek... " " Washita..... " "
<b>Box.</b> Triangular, No. 6 per doz. \$6 25	<b>SCISSORS.</b> Star.....60%	Post Drains & Ditching. Hubbard's Size..... A B C 14"..... 17 15 16 40 15 65 16"..... 17 50 16 75 16 00 18"..... 17 85 17 10 16 85 20"..... 18 20 17 45 16 70 22"..... 18 55 17 80 17 05	Scythe. Black Diamond per gro. New Nets Crescent..... Green Mountain " " LaMolle..... Extra Quinne- bog..... Red End.....
<b>Box.</b> Road. Cubic ft. .... 7 5 3 With runners, ea. \$7 00 6 50 6 20	<b>SCOOPS.</b> Hubbard Western Pattern Riveted. Size.. A B C D 1 \$16 75 16 00 15 25 14 45 4 17 85 17 10 16 35 15 60 6 18 65 17 85 17 10 16 35	Snow. Hubbard Special, Long Handle.....\$10 00 D-Handle..... 11 00 Sidewalk Scraper..... 6 50	Stops, Bench. No. 10 Morrill pat- tern.....per doz. \$11 00 No. 11 Stearns pat- tern..... 10 00 No. 15 Smith pattern " 7 00
<b>SCREEN DOOR HINGES.</b> Cast Iron.....gross \$13 00 Steel..... " 9 50	<b>SCRAPERS.</b> Hand—Wood.....50% Hand Rail.....22% Jack.....30% Lag or Coach—all sizes, gimlet pointed.....45-50%	Alaska Steel. D-Handle.....per doz. \$3 50 Long Handle..... " 3 00	<b>STOPPERS, FLUE.</b> Common.....per doz. \$1 10 Gem, flat, No. 3.... 1 00 Gem, No. 1..... " 1 10
<b>RIVETS.</b> Copper Bolt....Add 15% to list Coppered Iron.....30% Tinnars'.....30%	<b>SCREWS.</b> Bench. Iron, ins. 1 1 1/4 1 1/4 \$6 32 7 37 9 45 10 30 Wood, white maple, per doz. 6 00	Wrought Steel. Painted, 16x24..... "	<b>STRAPS.</b> Skate.....per doz. \$5c & 1 20
<b>Same.....</b> per lb. \$0 17	<b>Hand—Wood</b> .....50%	Covered Spring.....Add 30% Judd's Pattern Add \$3 1-6% to list	<b>STRETCHERS.</b> Bullard's.....per doz. \$3 90 Excelsior..... " 5 25 Malleable Iron.... " 70 Perfection..... " 6 20 King..... " 4 50
<b>Stotted Clinch....</b> per doz. 60 @ 1 10	<b>Hand Rail</b> .....22%	<b>SNAPS, HARNESS.</b> Double Ring, Bush...per doz. \$9 75 Patent Loop, Bush... 10 00 Patent Loop, Grass " 8 75	Wire. O. S. Elwood, No. 2 " " O. S. Elwood, No. 1 per doz. Nets
<b>Tubular.</b> Nos. 1 and 2 assorted sizes, 50 in box.....doz. 75c Nos. 1 and 2 assorted sizes, 10 in box.....doz. 1 40	<b>Jack</b> .....30%	<b>SNATHS.</b> Double Ring, Bush...per doz. \$9 75 Patent Loop, Bush... 10 00 Patent Loop, Grass " 8 75	<b>SWIVELS.</b> Malleable Iron.....per lb. \$0 10 Wrought Steel.....per gro. 4 50
<b>ROPE.</b> Cotton. 1/4, 5-16 in. Com. on reels, per lb.....80c 1/4, 5-16 in. Com. in coils, per lb.....80c	<b>Lag or Coach—all sizes, gimlet</b> pointed.....45-50%	<b>SNIPS, TINNERS'.</b> Clover Leaf.....40 & 10% National.....40 & 10% Star.....50%	<b>TACKS.</b> Bill Posters' 6-oz., 25 lb. boxes, per lb.....15c Upholsterers' 6-oz., 25-lb. boxes, per lb.....15c
<b>Sheal.</b> 1st Quality.....13 1/4c to 14 1/4c No. 2.....12 1/4c to 13 1/4c	<b>Saw—Centennial,</b> Nos. .... 1 2 3 4 Per doz.....47c 55c 75c 90c	<b>SPRINGS, DOOR.</b> Perfect. Nos. .... 2 3 4 5 6 7 Per doz. 55c 60c 65c 75c 90c 1 00	<b>Reliance.</b> Light Medium Heavy Per doz. \$1 55 3 10 3 20 Torrey's.....per doz. 1 65
<b>Pure Manila.</b> 1st Quality, base, per lb. .....15 1/4c to 16 1/4c Hardware grade, per lb. .....14 1/4c to 15 1/4c	<b>Wood.</b> F. H. Bright.....72 1/4-20% F. H. Blued.....70-20% F. H. Jap'd.....65-20% F. H. Brass.....65-20% R. H. Brass.....62 1/4-20%	<b>SCYTHES.</b> Clipper, Grass....per doz. \$12 50 Honest Dutchman.. " 13 00	





<b>Ceilings—Metal.</b> Burton Co., W. J., Detroit, Mich. Friedley-Voshardt Co., Chicago, Ill. Hopson Co., W. C., Grand Rapids, Mich. Milwaukee Corrugating Co., Milwaukee, Wis. Northern Corrugating Co., Green Bay, Wis. Wheeling Corrugating Co., Wheeling, W. Va.	<b>Enamels—Wood.</b> Cornish & Co., J. B., Chicago, Ill. Federal Varnish Co., Chicago, Ill.	<b>Heaters—Warm Air—Cont.</b> May-Fieberger Furnace Co., Newark, Ohio Meyer Furnace Co., Peoria, Ill. Monitor Stove Co., Cincinnati, Ohio Monroe Fdy. & Furnace Co., Monroe, Mich. Peerless Foundry Co., Indianapolis, Ind. Premier Warm Air Heater Co., Dowagiac, Mich. Rudy Furnace Co., Dowagiac, Mich. Rybolt Heater Co., Ashland, Ohio Scheible-Moncrief Heater Co., Cleveland, Ohio Schill Bros. Co., Crestline, Ohio Schwab & Sons Co., R. J., Milwaukee, Wis. Standard Furnace & Supply Co., Omaha, Neb. St. Louis Heating Co., St. Louis, Mo. Waterloo Register Co., Waterloo, Iowa Wellston Mfg. Co., Wellston, Ohio Wise Furnace Co., Akron, Ohio	<b>Metals—Perforated.</b> Harrington & King Perforating Co., Chicago, Ill.
<b>Chain—Sash.</b> Parker Supply Co., New York, N. Y.	<b>Fence Gates.</b> American Steel & Wire Co., Chicago, Ill.	<b>Peelers—Fruit.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Miters.</b> Friedley-Voshardt Co., Chicago, Ill.
<b>Chaplets.</b> Fanner Mfg. Co., Cleveland, Ohio	<b>Fenders.</b> Meyers Mfg. Co., Fred J., Hamilton, Ohio	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Nails—Slatting.</b> Hussey & Co., C. G., Pittsburgh, Pa.
<b>Chisels.</b> Vaughan & Bushnell Mfg. Co., Chicago, Ill.	<b>Files.</b> Heller Bros. Co., Newark, N. J.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Nails—Wire.</b> American Steel & Wire Co., Chicago, Ill.
<b>Clips—Damper.</b> Carr Supply Co., Chicago, Ill. Waterloo Register Co., Waterloo, Iowa	<b>Flux—Aluminum.</b> Roesch, Geo. E., Aurora, Ill.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Ornaments—Sheet Metal.</b> Friedley-Voshardt Co., Chicago, Ill. Geroch Bros. Mfg. Co., St. Louis, Mo.
<b>Coal Chutes.</b> Peerless Foundry Co., Indianapolis, Ind. Sykes Co., The, Chicago, Ill.	<b>Freezers—Ice Cream.</b> North Bros. Mfg. Co., Philadelphia, Pa.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Patterns—Stove.</b> Cleveland Castings Pattern Co., Cleveland, Ohio Quincy Pattern Co., Quincy, Ill. Shaw & Son Co., The Geo. E., Cleveland, Ohio Taft Metal Pattern & Mfg. Co., Cleveland, Ohio Vedder Pattern Works, Troy, N. Y.
<b>Coasters.</b> The Auto-Wheel Coaster Co., Inc., No. Tonawanda, N. Y.	<b>Furnace Rings.</b> Independent Reg. & Mfg. Co., Cleveland, Ohio Walworth Run Fdy. Co., Cleveland, Ohio	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Pipe and Fittings—Furnace.</b> Carr Supply Co., Chicago, Ill. Central Heating Supply Co., Chicago, Ill. Henry Furnace & Fdy. Co., Cleveland, Ohio Lamneck Co., W. E., Columbus, Ohio Manny Heating Supply Co., Chicago, Ill. Meyer & Bro. Co., F., Peoria, Ill. Michigan Safety Furnace Pipe Co., Detroit, Mich. Standard Furnace & Supply Co., Omaha, Neb.
<b>Cores—Radiator, Auto.</b> Curfman Mfg. Co., F. L., Maryville, Mo. G. & O. Mfg. Co., New Haven, Conn.	<b>Garages—Metal.</b> Wellman Supply Co., Springfield, Mass.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Pipe and Fittings—Stove.</b> Hemp & Co., St. Louis, Mo. Meyer & Bro. Co., F., Peoria, Ill. Sullivan-Geiger Co., Indianapolis, Ind.
<b>Cornices.</b> Burton Co., W. J., Detroit, Mich. Friedley-Voshardt Co., Chicago, Ill. Milwaukee Corrugating Co., Milwaukee, Wis.	<b>Guards—Fire.</b> Meyers Mfg. Co., Fred J., Hamilton, Ohio	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Pipe—Conductor.</b> Berger Bros. Co., Philadelphia, Pa. Burton Co., W. J., Detroit, Mich. Clark-Smith Hdw. Co., Peoria, Ill. Dieckmann Co., Ferdinand, Cincinnati, Ohio Friedley-Voshardt Co., Chicago, Ill. Hussey & Co., C. G., Pittsburgh, Pa. Lupton's Sons Co., David, Philadelphia, Pa. Milwaukee Corrugating Co., Milwaukee, Wis.
<b>Cut-Offs—Rain Water.</b> Sullivan-Geiger Co., Indianapolis, Ind.	<b>Hammers.</b> Vaughan & Bushnell Mfg. Co., Chicago, Ill.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Polish—Metal and Stove.</b> Black Silk Stove Polish Co., Sterling, Ill.
<b>Dry Paste.</b> Carr Supply Co., Chicago, Ill.	<b>Handles—Boiler.</b> Berger Bros. Co., Philadelphia, Pa.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Posts—Steel Fence.</b> American Steel & Wire Co., Chicago, Ill.
<b>Dumb Waiters.</b> Sedgwick Machine Works, New York, N. Y.	<b>Handles—File.</b> Parker Supply Co., New York, N. Y.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Presses—Lard.</b> Enterprise Mfg. Co. of Pa., Philadelphia, Pa.
<b>Eaves Trough.</b> Abbott Mfg. Co., Cleveland, Ohio Berger Bros. Co., Philadelphia, Pa. Burton Co., The W. J., Detroit, Mich. Clark-Smith Hardware Co., Peoria, Ill. Lupton's Sons Co., David, Philadelphia, Pa. Milwaukee Corrugating Co., Milwaukee, Wis. Northern Corrugating Co., Green Bay, Wis.	<b>Hangers—Eaves Trough.</b> Abbott Mfg. Co., Cleveland, Ohio W. C. Hopson Co., Grand Rapids, Mich.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Punches.</b> Bertsch & Co., Cambridge City, Ind. Niagara Machine & Tool Wks., Buffalo, N. Y. Whitney Mfg. Co., W. A., Rockford, Ill.
<b>Elbows and Shoes—Conductor.</b> American Rolling Mill Co., Middletown, Ohio Dieckmann Co., Ferdinand, Cincinnati, Ohio Lupton's Sons Co., David, Philadelphia, Pa. Milwaukee Corrugating Co., Milwaukee, Wis.	<b>Heaters—School Room.</b> Haynes-Langenberg Mfg. Co., St. Louis, Mo. Meyer Furnace Co., Peoria, Ill. Monroe Fdy. & Furnace Co., Monroe, Mich. Peerless Foundry Co., Indianapolis, Ind. Standard Furnace & Supply Co., Omaha, Neb.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Punches—Combination Bench and Hand.</b> Parker Supply Co., New York, N. Y.
<b>Elevators—Hand and Power.</b> Kimball Bros. Co., Council Bluffs, Iowa Sedgwick Machine Works, New York, N. Y.	<b>Heaters—Warm Air.</b> American Furnace Co., St. Louis, Mo. Black Diamond Furnace Co., Monmouth, Ill. Carr Supply Co., Chicago, Ill. Central Heating Supply Co., Chicago, Ill. Cooperative Foundry Co., Rochester, New York Forest City Fdy. & Mfg. Co., Cleveland, Ohio Haynes-Langenberg Mfg. Co., St. Louis, Mo. Hall-Neal Furnace Co., Indianapolis, Ind. Hammond Heating Co., Cincinnati, Ohio Henry Furnace & Fdy. Co., Cleveland, Ohio Hess-Snyder Co., Massillon, Ohio Independent Stove Co., Owosso, Mich. Lennox Furnace Co., Marshalltown, Iowa Mahoning Fdy. Co., Youngstown, Ohio Manny Heating Supply Co., Chicago, Ill.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	<b>Punches—Hand.</b> Parker Supply Co., New York, N. Y.
<b>Enamel—Iron.</b> Black Silk Stove Polish Works, Sterling, Ill.	<b>Holders—Flag Pole.</b> Enterprise Mfg. Co. of Pa., Philadelphia, Pa.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Horse Shoes.</b> American Steel & Wire Co., Chicago, Ill.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Humidifiers.</b> Haynes, Kansas City, Mo.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Incubators.</b> Queen Incubator Co., Lincoln, Nebr.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Indoor Closet.</b> Independent Reg. & Mfg. Co., Cleveland, Ohio	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Jobbers—Hardware.</b> Bullard & Gormley Co., Chicago, Ill. Clark-Smith Hardware Co., Peoria, Ill.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Kitchen Utensils.</b> Lalanc & Grosjean Mfg. Co., Chicago, Ill.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Lath—Expanded Metal.</b> Milwaukee Corrugating Co., Milwaukee, Wis.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Machines—Crimping.</b> Bertsch & Co., Cambridge City, Ind. Niagara Machine & Tool Works, Buffalo, N. Y.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Machinery—Culvert.</b> Bertsch & Co., Cambridge City, Ind.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Machines—Razor Blades.</b> Hyfield Mfg. Co., New York, N. Y.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Machines—Stove Pipe.</b> Hemp & Co., St. Louis, Mo.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Machines—Tinmiths'.</b> Bertsch & Co., Cambridge City, Ind. Dreis & Krump Mfg. Co., Chicago, Ill. Hemp & Co., St. Louis, Mo. Kniedler, Frederick J., Philadelphia, Pa. Maplewood Machinery Co., Chicago, Ill. Marshalltown Mfg. Co., Marshalltown, Iowa Niagara Machine & Tool Works, Buffalo, N. Y. Whitney Mfg. Co., W. A., Rockford, Ill.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Mailing Lists.</b> Ross-Gould, St. Louis, Mo.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	
	<b>Meat and Food Choppers.</b> Enterprise Mfg. Co. of Pa., Philadelphia, Pa.	<b>Peelers—Fruit—Cont.</b> Peerless Foundry Co., Indianapolis, Ind.	